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SECTION OF TUBERCULOSIS

PRESIDING: Dr. Roy Morgan, Westfield, Acting Chairman.

CHAIRMAN MORGAN: The meeting will come to order. Is there any special business?

DR. ALTON S. POPE, Boston: *Mr. Chairman*—As the Association knows, this is the eighth year of the ten-year program of the State Department of Public Health. The problem now facing the department is what the future of the so-called Chadwick Clinic, the ten-year program on tuberculosis for children in Massachusetts, shall be. We have learned a great many facts in the eight years, have changed our opinion on some points, and feel that we ought to give a great deal of thought to the future of this work.

The Committee on Public Relations of the Massachusetts Medical Society has suggested that the Department of Public Health might well consult with the various sections of the Society on matters of medical policy with which the Department is concerned, and, if it is acceptable to this section, I would like to make a motion that the Chair be authorized to appoint a committee especially interested in tuberculosis from this section who would be willing to meet with the representatives of the Department of Public Health and assist and advise the Department in working out the future of the ten-year program in Massachusetts.

We feel that this is no longer purely a matter for the Department, and have been very much encouraged that, at the present time, something over three-quarters of the children being sent to the Children's Sanatoria are being sent by general hospitals, dispensaries and general practitioners. In other words, our children's hospitals are not being filled by children selected by the clinics of the Department of Public Health. Physicians apparently appreciate the importance of this problem and would encourage their help in planning the continuation of our childhood work on tuberculosis.

CHAIRMAN MORGAN: A committee of how many?

DR. POPE: I should think a small committee, perhaps three or five.

(The motion was seconded, the question put, and the motion prevailed without dissent.)

CHAIRMAN MORGAN: Is there any other business? (No response.) If not, we will proceed with the regular program. The first paper on this program is "Silicosis or Pneumonoconiosis in Vermont Granite Cutters and Slate Workers," by Dr. Edward J. Rogers of Pittsford, Vermont.

SILICOSIS OR PNEUMONOCONIOSIS IN VERMONT GRANITE CUTTERS AND SLATE WORKERS*

BY EDWARD J. ROGERS, M.D.†

VERMONT has three major stone industries. On the extreme west side in the Champlain Valley there are many slate quarries. A little farther east but still on the west side of the Green Mountains, in what is known as the Otter Creek Valley, are large marble quarries. Granite comes from the east side of the state, the largest quarries being near Montpelier and Barre. Barre claims to be the granite center of the United States. Granite is quarried all the way from St. Johnsbury and Hardwick on the north, through Woodbury, Montpelier, Barre, and Bethel, down to Brattleboro on the south. My interest in the problem of silicosis is largely clinical and economic and is mostly confined to those cases of silicosis which later on develop active pulmonary tuberculosis.

In preparing this paper I have drawn largely on Public Health Bulletin No. 187: The Health of Workers in Dusty Trades—II. Exposure to Siliceous Dust (Granite Industry). Treasury Department, United States Public Health Service. Washington: 1929. This bulletin was published after two and one-fourth years field work by Dr. Albert E. Russell, Passed Assistant Surgeon, who spent all of that time at Barre. Dr.

*Read before the Section of Tuberculosis of the Massachusetts Medical Society at its Annual Meeting at Boston, June 9, 1932.

†Rogers—Medical Director of Vermont Sanatorium, Pittsford, Vt. For record and address of author see "This Week's Issue," page 238.

Russell studied nine hundred and seventy-two persons, all employed in the granite industry. He recorded his findings both in the sick and the well.

The following monograph has also been used: A Review of Our Present Knowledge of Pneumonoconiosis, Based Upon Roentgenologic Studies, With Notes on the Pathology of the Condition. By Henry K. Pancoast, M.D., and Eugene P. Pendergrass, M.D., Department of Roentgenology, University of Pennsylvania, Philadelphia, Pennsylvania.

Extensive studies in the pathology and bacteriology of silicosis and tuberculosis have been made by Dr. Leroy U. Gardner, Director and Pathologist of the Saranac Laboratory for the Study of Tuberculosis, Lake Saranac. Some of his studies are recorded in Public Health Bulletin No. 187.

I first went to Vermont in June, 1913, as Medical Director of the Vermont Sanatorium. Many cases of tuberculosis applying for admission gave their occupation as "slate worker" or "granite cutter". At that time the Vermont Sanatorium made an effort to admit only early cases of tuberculosis and many of the doctors in Montpelier and Barre refused to recommend the granite cutters for admission because they felt that the prognosis was bad. Later on many of these cases were seen in consultation with the doctors at Montpelier and Barre, and still later there was an opportunity of visiting Barre and examining a large number of cases in company with Dr. D. C. Jarvis of Barre, Dr. Edward R. Baldwin of Lake Saranac, Dr. P. Challis Bartlett of Boston, and various other chest specialists who dropped in from time to time to study the x-rays and case histories which had been compiled by Dr. D. C. Jarvis of Barre. In 1921, the Washington County Hospital was opened at Barre and the writer began his service as Medical Director. A large number of granite cutters are treated at this institution. Dr. Frederick L. Hoffman of the Prudential Life Insurance Company also made frequent visits to Barre, and about 1918 he sent a lay worker, Mr. Schatschneider, to Barre to study the union records, the death certificates in the city clerk's office, and the tombstone records in the cemeteries. Mr. Schatschneider also made many inquiries regarding those granite cutters who left the States and returned to Italy, Scotland, and Sweden. It was found that a tremendous percentage of workers engaged in the granite trade had died from tuberculosis. The work of Dr. Jarvis proved that definite silicosis was found in nearly all granite workers in varying degrees, and this work was afterwards confirmed by Dr. Albert E. Russell of the United States Public Health Service. The following table is taken from Dr. Russell's report to show the race of the granite cutters:

RACE OF GRANITE CUTTERS

	Percentage	Number
Italian and Swiss	33.0	321
Scotch	20.6	200
American	13.4	130
Spanish	8.1	79
French Canadian	7.6	74
English	4.3	42
Swedish	3.6	35
Irish	3.1	30
Finnish	1.9	18
Canadian	1.6	16
Mixed	1.6	16
Others	1.1	11
Total	100.0 (approximate)	972

Dr. Russell calls attention to the fact that the Italians are largely from the northern part of Italy, many of them having lived over the border, in Switzerland.

The Vermont Sanatorium is only about thirty miles from the slate industry. The slate workers are mostly from Wales, although the second and third generations were born in America. Next in number to the Welsh come the Irish, and naturally many Americans have also gone into the slate industry.

The center of the marble industry is at Proctor and there are large mills in Proctor, West Rutland, and in the town of Pittsford. Here the workers are largely Italians, Irish, Americans, Swedes, French-Canadians, and in more recent years people from the Austro-Hungarian Empire. Still later a large number of Poles entered the marble district to work in the quarries.

It is a mistake to assume that all employees have the same amount of exposure to granite dust and Dr. Russell groups them as follows:

CLASSIFICATION OF OCCUPATIONS INTO DUST-COUNT GROUPS

Group	Occupation	Number of men	Dust count (million particles per cubic foot)
More than average plant dustiness			
A	Hand pneumatic-tool operators	565	59.2
A	Carvers, letterers	24	37.0
A	Part of employment in other occupations	25	.....
B	Surface machine operators	68	44.0
B	Tool grinders	20	27.1
B	Others	16	.....
Average plant dustiness			
C	Lumpers, Boxers, Polishers (all but plant A), Cranemen, Bed setters, Tool carriers, Mechanics, Laborers	146	20.2

Less than average plant dustiness			
D	Polishers (plant A)	18	9.0
	Sand blast operators	4	6.2
	Sawyers	10	4.6
	Blacksmiths	10	2.5
	Others (no specific dust count, but low)	66	.....

The following is a more or less typical case of tuberculosis arising in the granite worker. Patient usually of good weight, but following a vacation or a lay-off from a strike he notices that his "wind" is not quite so good as formerly. He may even notice a little fatigue. If there is any hoarseness he does not pay any attention to it because many of the cutters have a thickening of the posterior commissure due to constant dust inhalation, and have to clear their throats frequently. Next in order come a disturbance of digestion, loss of weight, definite fatigue and pleurisy. Occasionally the patient has a frank hemorrhage. There is also fever, which is not apt to be high. Some patients have a pronounced fear of tuberculosis and will not go to a doctor, while still others visit every doctor in Montpelier, Barre, Randolph and Waterbury, and some go as far as Burlington. All of the doctors examine the patients and find something more or less like a dry pleurisy. Each doctor sends away the sputum and for a long time the reports continue to come back negative. Finally the sputum is positive. The doctor may or may not tell the patient that he has tuberculosis. Within six to twelve months from the first shortness of breath or disturbance of digestion the patient is apt to run a steady fever, may or may not have night sweats, often has had a large hemorrhage, and is then willing to take desperate measures to get well. With occasional recessions the disease has a steady progression.

Even after advanced silicosis and definite tuberculosis the physical findings may be relatively slight. Russell lays great stress on an impairment of resonance and decreased expansion, but many of these workers present a slightly emphysematous condition, and relatively few of them have the typical tuberculosis râles which are found in the ordinary citizen. The x-ray, however, shows both tuberculosis and silicosis.

All of you are familiar with the so-called early silicosis film. The hilum shadows are exaggerated and the usual markings or striations are also exaggerated. In the beginning localized parenchymal deposits are not evident but later on, in addition to the above-mentioned increased striations there is found down near a base a homogeneous shadow which increases in size from year to year.

The first shadow occurs more often at the right base than the left. This shadow usually extends as far as the arch of the diaphragm and often obliterates the diaphragm shadow as it increases in density and extends in size. Still later, homogeneous shadows appear on the level with the hilum, and often these shadows show ragged centers of relatively less density which we interpret as excavations. The apex and the first space are often relatively clear.

The prognosis of tuberculosis in pneumonoconiosis is bad. There is one outstanding patient in Waterbury, Vermont, who was refused admission to the Vermont Sanatorium in 1907 or 1908 because he had both pulmonary and laryngeal tuberculosis. This man made a good recovery and is still living, but he was, and is, a most fortunate individual. I have known several cutters with tuberculosis who lived ten years, although the usual course of the disease is less than three years and the average from eighteen months to two years. Sometimes meningitis or a seeming miliary involvement takes them off quickly. I have also noted that many ex-granite workers, men who have gone into stores, mills, business offices, or to farms, eventually break down with tuberculosis and run more or less the same clinical course. I do not believe that silicosis disappears when the granite cutter leaves the sheds.

The philosophy of the physicians in the granite district is that treatment does not seem to bring about a cure and that it seldom extends the life of the patient more than six to twelve months, therefore, many of the cases travel under a diagnosis of "bronchitis" and are encouraged to keep at work. This means that the patient earns full pay for six, twelve, or eighteen months, keeps away from his children eight or nine hours a day and is better able to provide for his family. The granite cutters earn large wages and live well when times are good.

Many of you will be surprised to know that the amount of free silica in slate dust is probably greater than that in granite dust. Much of the slate is converted into slabs and roofing slates. The slabs require a certain amount of grinding and sizing, but in making roofing slates the chips are relatively large and are probably not inhaled. There is one industry in the slate belt, however, that does produce an immense amount of dust. At Castleton there is a plant which grinds slate into a fine powder or flour. This material is used as a "filler" in certain manufactured articles, particularly phonograph records. The dust in this plant is so great that often the men are unable to tell whether or not a belt or a wheel is moving. They carry sticks in their hands with which to feel belts and spokes. Dr. Russell returned to Vermont in the summer of 1931 and took a large series of x-rays both in the slate district and in the marble district. The slate workers, particularly those engaged in the pulverizing plant mentioned above show a tremendous amount of pneumonoconiosis. I have no actual statistics on the slate workers but my impression is that

the death rate from tuberculosis in the slate district is not so high as in the granite district. Many of the slate workers showing tremendous shadows are in perfect health. On the whole, their shadows are large, but much more symmetrical than the shadows found in granite workers.

In the marble district we have to deal with an entirely different dust. Marble is a soft stone and it is said that the particles are not so sharp and not so irritating. It is believed that the fine particles of marble dust are acted on by body fluids or coughed out without producing a fibrosis. The most interesting feature of the films taken in the marble district is the large number of nodules, not only in the hilum but scattered throughout the lungs which both Dr. Russell and the writer interpreted as calcifications. Some of the marble workers had been exposed to dust for from twenty to forty years. My recollection is that only two films showed what we interpreted as healed tuberculosis in the upper half of the lung. Practically none of them had base densities, while a tremendously large percentage showed definite lime deposits in the costosternal cartilages. In other words, marble workers show straight calcium deposits as distinguished from fibroid nodules. Having worked in the marble district for nineteen years my belief is that lime dust does not predispose to tuberculosis and I am willing that you infer that it may be more or less protective.

Discussion

Chairman Morgan: The discussion of Dr. Rogers' paper will be opened by Dr. Charles Whelan, of Boston.

Dr. Charles Whelan, Boston: In opening the discussion I am going to show a few films, and see if Dr. Rogers can give us any enlightenment on them. These films were all taken stereoscopically, and of course show a much clearer picture of the pathology present than do single films, but, as we have no stereoscopic view box here, we shall have to be content in examining the single films. Fairly fast exposures were used, with 200 M.A. of current, 1/20th of a second of time, with a focal distance of six feet.

The two first cases have been in the granite industry for twenty years and are between forty-five and fifty years of age.

This first picture shows a marked widening of the transverse diameter of the heart and this patient reported to the doctor because of breathlessness, which was his only symptom. You will note the homogeneous mottled density invading both lungs, which when viewed stereoscopically looks like a snowstorm, with a large drift in this spot and smaller drifts in these others.

This next picture is the chest of a thick-set Italian, who also reported to his doctor complaining of breathlessness. You will note that the heart is within normal limits, but that there is a tremendous infiltration of both lungs accompanied by marked fibrosis, and represents to my mind one of the most extensive examples of silicosis that I have ever seen. Please note the condition of the diaphragm, with these small pointed densities, which I think are due to adhesions resulting from an old pleurisy. The presence of the fibrosis and these adhesions indicates of course, an old inflammatory condition accompanying the silicosis.

Now, as a matter of comparison, I am going to show you a proved case of miliary tuberculosis. This man had a history of having lost in a very short time about twenty-four pounds in weight, and progressive weakness accompanied by a positive sputum. You will note the similarity between the homogeneous mottling throughout the periphery of both lungs, to that of the previous pictures shown. The outstanding difference between the mottling of silicosis and the mottling of miliary tuberculosis is that the density is much greater in silicosis.

This next film shows a man who has never worked in a quarry, neither has he engaged in any occupation where dust was prevalent except in a normal amount. He is a machinist, who rides back and forth each day on the train, and this has been his daily routine for a number of years. The only dust he has inhaled is the dust which is incident to such travel. However, you will note that there is a marked similarity between this film and the one shown above. This patient also shows evidence of breathlessness, and at the time of this examination there is no indication of any inflammatory condition.

My interest in these cases is in the diagnosis from a differential standpoint, as I find it very difficult to make a positive diagnosis of silicosis without an accurate history of the case.

The talk which Dr. Rogers has just completed, founded on observation of about one thousand cases, certainly gives a wonderful opportunity to study the results of the inhalation of granite, slate or marble dust. I would like to ask him when he speaks again to tell us whether he can offer any other means of differential diagnosis of the conditions I have just shown in these films.

Also, I would like to ask him upon what basis he made a positive diagnosis of silicosis on the film where the involvement was confined wholly to one side.

Chairman Morgan: Does any one else care to discuss Dr. Rogers' paper?

Dr. Hawes: The fact that pneumonoconiosis is not a compensable disease in Vermont does not lessen its importance. In Massachusetts the granite worker is better off. If he develops pneumonoconiosis he is definitely entitled to com-

pensation. During the past four years I have seen and studied clinically and with x-ray over 300 granite cutters with pneumonoconiosis. I would like to emphasize in the examination of these men the absence of physical signs. One sees many big, finely-built men in whose chests one can find nothing strikingly wrong. Shortness of breath is almost always the predominant symptom. Again, I would like to emphasize that it is not always the number of years during which the man has been exposed to granite dust which decides how much pneumonoconiosis he has in his lungs. This seems to depend upon the patient's individual resistance. I have seen many men who have been exposed to granite dust 30-40 years whose physical examinations clinically and by x-ray have been almost negative. Now that I am seeing an increasing number of men who have been cutting granite for only a few years I am finding not a few whose lungs show marked signs of pneumonoconiosis which have developed in a comparatively short time.

The figures seem to show that about 75% of cases of pneumonoconiosis die of tuberculosis. In my own series of about 325 cases I should say that tuberculosis deaths were less than that and that a fairly large proportion died of cardio-renal disease.

I used to think—and I believe the rest of us think—that the action of granite on the lungs was purely mechanical, the particles getting into the lung tissue, acting as a foreign body and being surrounded by a scar which eventually destroyed large amounts of lung tissue. It is now the consensus of opinion that there is likewise a chemical as well as a mechanical reaction in bringing about the damage which is done.

From a medical-legal point of view a curious situation is present here in Massachusetts. If I appear before the Industrial Accident Board, say definitely and show it on the x-ray films that a man has far advanced pneumonoconiosis, there is no doubt as to the decision which the Board will render in his case. But what about the early cases? The attitude of insurance companies at present is that unless the man is totally disabled they will not allow any compensation so that many of these men in the early stages of pneumonoconiosis are forced to go back to an occupation which in the long run is going to kill them. I personally cannot see my way clear to allow a man to go back to a job which I know is going to incapacitate him and cause his death later. This is the problem with which we are now struggling in Massachusetts and the answer I do not know. You cannot get these men to wear masks except in very rare instances. I doubt if there is a mask made which will permit the man wearing it to do hard physical work with any comfort. I certainly have never seen one. Nasal filters are worse than useless.

I was particularly interested in what Dr. Rogers said about the slate industry as up to now I have always thought that slate was a marble compound made of lime and had no silicon.

Dr. H. C. Turner, Boston: I think the chemical point is very interesting because, as I understand it, there are only one or two chemical substances which so far have ever been supposed to have any special specific relationship to the development or course of tuberculosis. This SiO_2, or silica, is one, and sugar and the metabolic products of diabetes is another. I have recently looked up the results in a series of 120 cases of coma at the Deaconess Hospital to see whether the chemical disturbances of diabetes in the most exaggerated form, namely, diabetic coma, would be followed by the development of tuberculosis. You know there has always been a very great difference of opinion about the frequency of tuberculosis in diabetes. In these 120 cases that left the hospital after recovery from coma, so far 12 have within a period of from one to four years developed tuberculosis. In many cases the films before the outcome were negative, most of them were so. This rate of incidence is higher than that of any other group we have been able to follow in diabetes.

I believe that the old observations that were made so many years ago in Germany in following the employees of sugar refineries, granulated sugar factories, where the question was raised whether these employees had tuberculosis because the sugar granules cut the lungs or whether it was because the patients ate too much sugar and got diabetes, are of some interest.

Chairman Morgan: Any further discussion of this paper?

Dr. T. J. Murphy, Boston: Regarding this question of pneumonoconiosis, of course we should understand there are three stages, the first, second, and third, and what Dr. Hawes has said about the compensable nature of pneumonoconiosis is a question that should be studied. I think it is a public health matter just as much as is tuberculosis. So far as the x-ray of those early cases is concerned, we see the small miliary areas especially at the right base appearing first, subsequently merging into the upper part of the lung and then going over into the left lung. So far as tuberculosis is concerned, that usually comes as a terminal affair.

When Jarvis x-rayed all his cases, if they showed any marked density in the picture they were always removed from the mines. He found after doing that that the picture cleared up and when it was taken the next time he also found that they did a great deal better when they went back to work.

So far as pneumonoconiosis is concerned, it has

been said that it is an incurable disease, and even where persons leave the mines and go out into the open air on a farm or to other places where we would expect them to get well, they never do. Pneumonoconiosis goes on; it may have periods of recession but it still goes on, and it may be 15 or 20 years before we get to the terminal stage. Last year there were four cases reported of pneumonoconiosis. In one case a graduate of a technical school went into a mine to get accustomed to the work which he was to do above ground, and 20 years afterward he was examined and sent away because of tuberculosis which was found to be pneumonoconiosis. So, we cannot say how far-reaching the effects of inhaling this silica are. Where 76 per cent of the air content is silica, we always will get pneumonoconiosis. That cannot be taken out with masks, and the different apparatus they have been putting into the establishments do not clear the air of dust. It is impossible for a person to breathe with these masks, and the smaller pieces of dust will get in.

Mechanically, the dust does not cause the silicosis. As Dr. Hawes has said, it is the chemical nature, the absorption of the dust going into the bronchus, passing to the air vesicles, and from there into the lymphatics, and then you begin to get fibrosis. So, as I say, it is a public health matter and the State Department of Health, I think, should take a little more interest in this question of pneumonoconiosis than is done at the present time.

CHAIRMAN MORGAN: Is there any further discussion? May we hear from you again, Dr. Rogers?

DR. ROGERS: I am sorry that I cannot answer Dr. Whelan's question about that one case except that it was a granite cutter. An autopsy was not made, but we assumed he had both silicosis and tuberculosis. He died of tuberculosis.

There is one thing about the question of compensation; Dr. Hawes has said that a man should be compensated for disability from silicosis, but suppose that the man has had silicosis in his lung for twenty years, and that he has gone on a new job and developed "flu" or grippe. He then goes to Dr. Hawes or some other specialist and gets a certificate of silicosis. It is manifestly unfair that the last man who gave him a job so that he could feed his wife and children should have to carry insurance to protect the worker when the said worker has had this silicosis for twenty years. I do not know how the question of right and wrong is going to be worked out. Dr. Murphy spoke about the clearing of Jarvis' cases. Other students of silicosis are not convinced on this point. Dr. Jarvis did show a few films in which he proved to his own satisfaction that they had cleared up. Russell disputes this observation. My recollection is that at one time Jarvis contended that the shadows were due almost entirely to silicosis rather than to tuberculosis. When Jarvis first began his x-ray work a group including Dr. Baldwin of Saranac, Dr. P. Challis Bartlett (deceased) of Boston, Dr. Morgan of Mount McGregor, and the local Barre doctors examined quite a few of the granite cutters and we got moist râles which we considered indicative of tuberculosis. In several of these cases we afterwards found tubercle bacilli in the sputum, and still later some of these patients entered the Washington County Hospital and died. My belief is that the effects of silicosis do not disappear.

CHAIRMAN MORGAN: The next paper on the program is "Pneumothorax Treatment in Pulmonary Tuberculosis," by Dr. Andrew Peters, of Waltham.

PNEUMOTHORAX TREATMENT IN PULMONARY TUBERCULOSIS*

BY ANDREW PETERS, M.D.†

I FEEL signally honored to have been designated by the Section of Tuberculosis to present this important phase of tuberculosis therapy, especially in the presence of such pioneer workers in this field as Dr. Cleaveland Floyd and Dr. Gerardo Balboni, whose experience extends much farther back than my own. I do feel very decidedly that in the discussion of any therapeutic measure in tuberculosis, a far-reaching experience not only with that particular measure, but with the disease tuberculosis in general, is most desirable and valuable, because of the protean and variable manifestations and course of tuberculosis and their clinical behavior. We should know how tuberculosis in its manifold aspects and types acts under various circumstances without a particular form of therapy before trying to evaluate accurately such therapy and especially before claiming too much for it. We should also know what if any other measures are being applied at the same time. Thus I hope that Dr. Floyd, Dr. Balboni and others of long experience will add the weight of their comment to what I may have to say.

In order to avoid boring you with what most of you already know, I shall pass over the historical aspect of pneumothorax treatment. We know that it is by no means a new, or even a very recent method, and that many papers and

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reports have been published about it from the time of Forlanini and J. B. Murphy, through the era of Floyd, Robinson, Mary Lapham, Brauer, Saugmann, Rist, Minor and Ringer, King and Mills, Parfitt and Crombie, the Matson brothers, Lillingston, Riviere, and many others deserving of mention, to the present time.

I think all experienced tuberculosis workers will agree that the time is long past when we need to gather argument to prove that artificial pneumothorax is a valuable, probably one of the most valuable, measures we have at our disposal in attempting to cure well-developed, or as Bushnell calls it, "manifest" pulmonary tuberculosis. There still remains, however, considerable room for difference of opinion as to the extent of the indications and contraindications for pneumothorax. When I asked Dr. Morgan what particular phase of the subject he thought should be most touched on, this was the one he mentioned. At the Westfield State Sanatorium they see a good deal of tuberculosis in those of adolescent age, especially girls. At this age period the disease seems to develop and progress surprisingly rapidly, often under what seem to be favorable conditions and often with surprisingly little symptomatology until well advanced. Can this sort of thing be checked by earlier and wider application of collapse therapy, especially by pneumothorax? I wish I could answer this question with some assurance, but in spite of over a dozen years' experience with pneumothorax in three tuberculosis institutions and a little in private practice in the western part of this state, I do not conscientiously feel that I can. The first and principal reason is that I have not had the opportunity of following and observing a considerable number of patients of the adolescent age thus treated and of comparing them with a similar group treated in the same way except for pneumothorax. Nor do I recall any complete published report on such a group or groups, thus separated according to age-period. Armand-Delille's group, reported in French literature, dealt with somewhat younger children. At the present time a committee, or sub-committee, of the American Sanatorium Association, of which I have had the honor of being chairman, has gathered detailed data from about twenty representative institutions in all parts of this country and in Canada, covering patients treated by artificial pneumothorax between 1915 and 1930. One of the primary objects of his study was to get some reliable information and reach some fairly definite conclusions about the termination of pneumothorax treatment, but our embarking on this quest led us into other related matters of interest, and we hope of value, to practitioners of pneumothorax and those interested in tuberculosis. Our committee was fortunate in enlisting the valuable assistance of Dr. Alton S. Pope, of the Massachusetts Department of Public Health, and his staff. A summarized report has been sent to the Association at Colorado Springs, where it meets this year, and it is hoped that our complete and detailed report will be ready in the near future, and one of the aspects of the subject on which we shall try to come to some conclusions is on the ultimate value of pneumothorax treatment in the adolescent age-group, if we find we have a sufficient number of carefully followed cases. The total number of cases found available for detailed analysis was slightly under 400, which is less than we had hoped for, though not inconsiderable. One reason for the lack of larger numbers was our requirement that the patients should have been under observation when treatment was terminated, and also that there should be definite information as to their condition at least a year after its termination.

Speaking of adolescent pulmonary tuberculosis and pneumothorax treatment, on the basis of my own limited clinical observations, I have the impression that the immediate results, given a fairly unilateral lesion and a patient in not too badly impaired general condition, and also providing one obtains a fairly satisfactory collapse of the diseased areas, especially cavities, are generally good, but that later relapses, extensions into the contralateral lung, and reactivations after supposed healing are more frequent than in those of more mature years. Despite this, I believe that some type of collapse therapy, usually and preferably pneumothorax, should be given them, irrespective of their age, since the prognosis without such treatment is demonstrably bad in the vast majority. This point, however, leads directly to the question of whether institution of pneumothorax treatment at a much earlier stage in these adolescent cases would or would not yield superior results. This I think is debatable and disputed ground. I believe that a period of careful observation in the case of those whose lesions are not too obviously active and progressive and destructive on admission, is a wiser and sounder policy than immediate institution of artificial collapse therapy, unilateral or bilateral, in every case that suggests itself as a conceivable possibility for such measures. Examples of remarkable spontaneous healing of lesions under favorable conditions (I am speaking now of sanatorium material in general) checked up by roentgenographic evidence are too numerous to dismiss as rarities. At the same time we have to remember that while we may obtain a very localized selective sort of collapse of involved areas of lung, this is not invariably the case, for where the mediastinum is weak and flaccid, which is not uncommon, there is bound to be more or less functional embarrassment, which extends to the contralateral lung, and finally that inflammatory pleuritic exudates are an exceedingly common complication,

which it is not desirable to incur unnecessarily.

As to how long a period of preliminary observation is justified, it is difficult to follow any hard and fast rule, since this must depend on the type of case and sort of lesions with which we are dealing, and their behavior. With a fulminating type of disease practically confined to one lung, with evidence of rapid destruction of tissue, there can be little excuse for delay; on the other hand, where there are limited lesions, perhaps predominant on one side, without very marked symptoms, and especially very little evidence of tissue destruction, perhaps a negative sputum or no sputum, circumstances are quite different, and three or even six months' observation may be indicated, by the end of which time you may decide that the patient does not need pneumothorax. In borderline cases, fairly frequent periodic x-ray films may be of much assistance in deciding what seems best. For example, I have in mind the case of a young woman in the early twenties, who on admission showed very little from physical signs and who had at that time only slight constitutional symptoms. X-ray films of the chest showed moderately advanced pulmonary involvement, about equally distributed between the two lungs. She was put on the usual rest régime and gradually allowed up a little more. After several months she developed an acute pleurisy on the right, with fever, and was kept in bed for two or three months. Succeeding x-ray films showed a well-marked clearing of the right pulmonary lesion but an increase in the left lung. She is now receiving left artificial pneumothorax without any untoward effects, and is apparently improving.

A matter which appears to arouse considerable discussion and comment just now is the proportion of tuberculous patients or tuberculosis institutional patients suitable for either artificial pneumothorax or other collapse procedures, and one can find in the literature almost any figures, running from 2 or 3 per cent to 80 or 90 per cent. Some institutions seem to be trying to establish a record, like aviators. To me this sort of thing seems rather futile and not very scientific. We have in the committee report previously referred to, the proportion of total admissions in various representative institutions in whom pneumothorax treatment was given or attempted and it is of some interest but should not be given undue emphasis. In the first place, the material is not always comparable. Again, if one considers only patients in residence at a given time, a higher figure is usually arrived at than when total admissions or discharges over a given period are considered, for several reasons. Still again, there is the question whether previously abandoned pneumothorax cases are being included. Roughly speaking, I should estimate that somewhere between 15 and 25 per cent of the general run of new patients entering most tuberculosis institutions might be considered as fairly good prospects for pneumothorax treatment, but I should not care to be quoted dogmatically. In the group studied by our committee, the females outnumbered the males about two to one. Finally, we have to consider that in only a minority of the patients in whom pneumothorax treatment is attempted, is a really satisfactory and effective collapse of the diseased parts of the lung obtained. The Pneumothorax Committee figures are just under 40 per cent, and the Loomis Sanatorium figures which I collected from somewhat farther back up to 1925 were just a little below this. These latter showed failure to obtain any appreciable pneumothorax at all in about 20 per cent of attempts. It may be objected that with a selection of earlier and less advanced cases, as now advocated and practiced, these figures become obsolete. That is only partially true. The failures do diminish, but not so markedly as might be expected.

Despite all of what I have just said, the results, both immediate and late, of artificial pneumothorax, in patients properly selected and adequately treated, are beyond question, and the serious risks, in experienced hands, really inconsiderable. There is, indeed, often a dilemma in deciding when pneumothorax treatment can safely be abandoned, and our experience has been that the patient, in most instances, will prefer the inconveniences of returning for periodic refills to the unknown possibilities that may confront him if they are stopped. However, Rist, from an extensive experience in France, has found that very few relapses occurred in patients satisfactorily treated for four years and then allowed to lapse. This is the particular problem with which the Pneumothorax Committee of the American Sanatorium Association has been engaged. To my mind, rather than set an arbitrary period for treatment, each case should be studied individually and the condition of the lung before pneumothorax was instituted is a most important factor in determining how much treatment is required.

It may be noted that I have scarcely mentioned bilateral artificial pneumothorax, for the very good reason that I prefer to dwell on subjects covered by personal experience. I am at the present time treating one patient by partial bilateral pneumothorax and so far nothing untoward has occurred. But there seems to be no doubt that the risks and difficulties are very much greater than with unilateral pneumothorax and a scrutiny of the results obtained by others leads to the conclusion that they are generally very temporary and palliative; so that I think the conclusion is warranted that the indications for such procedure are extremely limited.

CHAIRMAN MORGAN: Since the second and third papers are rather closely allied it would probably be more satisfactory to have the third paper now and discuss the two together. This third paper is "Thoracoplasty in Pulmonary Tuberculosis," by Dr. Wyman Whittemore, of Boston.

THORACOPLASTY IN PULMONARY TUBERCULOSIS*

BY WYMAN WHITTEMORE, M.D.†

TWELVE years ago the first thoracoplasty in New England on a patient with pulmonary tuberculosis was performed at the Massachusetts General Hospital. This operation and the few that followed it during the next few years were done with great fear in our hearts as to what the outcome would be, not only for the patients but also for thoracic surgery. The complete operation was performed in one stage under a local anesthetic. At that time it was questionable whether a section of the first rib should be excised, and indeed it was the feeling that it was not necessary to do this except in very rare instances. So in these first few patients the first rib was not disturbed. The operation took a long time, the first one requiring an hour and thirty-three minutes. It seemed to me that there was a certain amount of feeling in the minds of the older surgeons as to whether this procedure was a legitimate one applicable to these desperately ill patients. Fortunately none died in the hospital following operation and indeed the first patient operated upon is still alive.

During the next few years thoracic surgeons were pleading with medical men interested in pulmonary tuberculosis to allow some of their patients to be operated upon, and it was necessary for these surgeons to take every opportunity to talk about this form of treatment and what it offered the patient. The results of thoracoplasty are very important and statistics compiled from a large series of cases are of much interest, but it has never seemed to me necessary to bring them into the argument favoring this operation, for if anybody has seen one successful case, that in itself should be and is enough argument to prove the wisdom of this method of treating certain cases. Now after many years, in which there has been a certain amount of skepticism in the minds of a few medical men, I think it can be said without question that every one interested in pulmonary tuberculosis knows that this procedure is one of the recognized forms of treatment, as is artificial pneumothorax. It is a source of great satisfaction to me to feel that this operation was first done, in New England, at the Massachusetts General Hospital.

Needless to say the technique of the posterior thoracoplasty operation has changed and improved during these twelve years. This has been brought about by greater familiarity with the operation and by the use of many new instruments that have simplified the difficult parts of the operation. There is now no question in any surgeon's mind as to the necessity of sectioning the first rib in order to obtain a satisfactory collapse and it seems better to remove a considerable section of it than merely to cut through it. Indeed sections of all the ribs removed are longer now than formerly. Gas and oxygen anesthesia has become our anesthetic of choice, used alone or with a local anesthetic. It has seemed to me in doing this operation with local anesthesia alone that in certain patients there has been a very bad mental reaction, and in one instance I felt that death may well have been due to the anesthetic. I have never seen an aspiration pneumonia following gas and oxygen anesthesia in these patients, although this is a point sometimes raised against the use of any general anesthesia and especially in cases with cavity formation. The operation is always done in at least two stages and occasionally in three. Whether the upper or the lower stage of the operation should be done first, may be a matter of opinion and varies in different clinics. It is better not to have any fixed ideas about this, but to plan the operation according to the condition found in the patient. In cases in which most of the disease is in the upper lobe it is wise to do this part of the operation first, so that if anything occurs to prevent the completion of the operation the worst part will have received attention. If the disease is practically uniform throughout the lung I have been accustomed to do the lower stage first, as it has seemed to me in following the convalescence of patients, that they are much more uncomfortable and have more shock following this than after the upper stage. It is pleasanter for the patient to know that, following the second stage, he will not have so much suffering as after the first and that his convalescence will be easier. If the intercostal nerves are injected with alcohol during the operation it seems reasonable to suppose that the patient will not have much pain, but I have been at times disappointed in finding that some patients had just about as much pain as those in which this was not done. It may have been that the technique of injecting the nerves was faulty.

How long one should wait between the first and second stages varies considerably with dif-

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ferent surgeons and must also depend on how the individual patient recovers from the first operation. The oft-repeated statement that the longer the time between stages the poorer the collapse is probably true. The best collapse would be obtained by doing the whole operation in one stage, but it is accompanied by a much higher mortality than when done in two stages, and so far as I know is not done in this country at the present time. If the convalescence is smooth, we usually wait about two weeks between stages, this varying a few days either shortening or lengthening the interval according to circumstances. My hope, always, is to do the second operation at the end of ten days rather than at the end of eighteen or twenty days.

It is not an uncommon experience, and is one that has interested me, to find how differently two patients may convalesce following the same operation, done in the same way and for similar conditions. Many times I have seen two patients operated upon for the same condition, the same operation done within twenty-four hours or even the same day and have been surprised that in one the convalescence was a comfortable, easy one and in the other there was nothing but pain and discomfort continued throughout the hospital period. Of course the mental make-up of patients varies greatly and may have something to do with this inexplicable difference in convalescence.

It has also interested me to see how the amount of collapse following operation may differ in patients who have had similar operations for much the same condition. Sometimes the patient with much fibrosis in whom the trachea and the mediastinum are greatly displaced has a poorer collapse following operation than the patient with less or even no displacement of the mediastinum. Yet the former condition is the one that is supposed to present the classical picture warranting operation.

Whether or not phrenicectomy should be performed on all patients preceding thoracoplasty is a question concerning which I think that no hard and fast rule can be applied. As a matter of fact most patients have had this operation performed at some time during their illness before coming into the Massachusetts General Hospital for thoracoplasty. It has always seemed to me that following the thoracoplasty in which the desired result was accomplished, namely a good collapse, the diaphragm became high and also fixed. There can be no argument but that some results are not unsatisfactory and in these, in spite of long sections of the lower ribs being removed, the diaphragm moves with respiration. It may be that in these instances a phrenicectomy would be beneficial.

Anterior-lateral thoracoplasty must be included in any discussion of thoracoplasty in pulmonary tuberculosis. In this operation the anterior-lateral sections of the ribs, from which the posterior sections have been removed, are excised. The results of this operation have been in cases in which the collapse has not been sufficient following the posterior thoracoplasty. Our experience with this procedure is very limited. It has been gratifying to see that this operation has been surprisingly well borne by the patient and that the convalescence is easier and more comfortable than that following the posterior operation.

I again repeat that no one interested in and familiar with the modern ideas of the treatment of pulmonary tuberculosis can fail to recognize the fact that thoracoplasty has a definite place in the treatment of this disease. Granted that is so, where should these operations be performed? This to my mind is an exceedingly important question and one the solution of which is becoming more and more compelling. I know that this matter is in the minds of those of you, especially, who are in charge of or connected with the sanatoriums in New England and I hope that you will not think that I am stepping out of my place to discuss this subject. For many years this whole matter has been in the minds of the members of the American Association for Thoracic Surgery and it has been discussed several times at the meetings of that society. It has been the general sentiment that these operations should be done only in the large hospitals that are equipped with the proper facilities both for the operation itself, and for the after-care, and are also equipped with the properly trained surgeons and assistants. It has not been found that a stay of six weeks in a city hospital is in itself detrimental. At the time when these discussions took place, the number of patients operated upon for this disease was very small when compared with the number being operated upon today. There is and will be, in my opinion, an ever-increasing number of patients operated upon during the next twenty or more years. It would seem only reasonable now that this form of treatment is on a sound and accepted basis, that most of this work should be done in the sanatoriums. It might be well, still, to send the more complicated cases into the surgical centers. But I see no reason why the ordinary, more or less classical case should not be handled entirely at the sanatorium. The advantages to the patient, if this should be brought about, are very obvious. It is possible that more patients would consent to operation and that more progress would be made under these conditions. Just how this is to be effected is, of course, a great problem and one to which I am not prepared to give the answer. It is necessary, I believe, that the operation and convalescence should be in the hands of well-trained thoracic surgeons, who are familiar with the ever-changing ideas in surgery

and the newer methods that are constantly being developed. The surgical equipment in the sanatorium's operating rooms must be modern and must be kept up with the new changes from time to time. An expert anesthetist who is well trained in thoracic surgery must be included in the scheme. It would then require, it seems to me, a team composed of a thoracic surgeon, an assistant trained in thoracic surgery, an operating nurse and an expert anesthetist. This team, I well know, would be difficult to obtain. The expense would be great and it may well be a question whether any one sanatorium has enough operative cases to warrant undertaking any such enterprise. It would be doubtful, at the present time, if any surgeon would be willing to confine his work to the surgery of pulmonary tuberculosis. This is the position in which he would find himself whether or not he wished it if he accepted any such position in a sanatorium. There are no surgeons in the eastern part of this country who are limiting, or who are willing to limit their work to thoracic surgery at the present time. There are three or four surgeons in the mid-west and western part of the country who confine themselves to this work and it may be that sometime in the future a few men here will be willing to do this. It may be that this team of which I speak could have its headquarters in a city and go to several sanatoriums and do their surgical work. The State spends, of course, an enormous amount of money each year on its tuberculosis patients, and it may be that before long it will have to spend more in order to include this surgical work in its sanatoriums. It was not with any idea that I could offer a solution to this problem that I spoke of it, but rather it was my desire to express the belief that some day before long all this surgery must be taken care of in the sanatoriums. How this is to be arranged is a very important problem and one that is worthy of much thought and discussion.

Discussion

Chairman Morgan: The next speaker will be Dr. Paul Dufault, of Rutland, who will discuss Dr. Peters' paper.

Dr. Paul Dufault, Rutland: *Mr. Chairman and Gentlemen*—Dr. Peters said at the beginning of his paper that he felt honored to have been given such an important subject as pneumothorax to treat before a distinguished body of men engaged in the field of tuberculosis. My feeling in discussing this paper before the same body of men can only be one of embarrassment.

However, I wish to say that I enjoyed very much the comprehensive and instructive talk that Dr. Peters gave and would like to add a few remarks.

In regard to the indications of pneumothorax, Dr. Peters stated that the cases suitable for pneumothorax therapy are estimated to vary in proportion from three or four per cent to eighty per cent, indicating the wide range of opinion on this particular subject. Lately I was reading in a new edition of a book by as eminent a man as Maurice Fishberg that only five per cent of the cases admitted to sanatoriums are suitable for pneumothorax treatment.

On the other hand, I heard Dr. Hawes say a few days ago that our percentage here in New England, which I think is about four to six per cent, according to a survey that he just completed, was far too low.

I have read somewhere that all cases of pulmonary tuberculosis are at one time in their course, suitable for pneumothorax therapy. That axiom seems to be true.

With that idea in mind, I went over some of our records, and I found that in 1931 only ten per cent of our cases were classified on admission as stage I, 41 per cent as stage II, and 40 per cent as stage III; the remaining nine per cent were not considered because of too short a stay or because they did not have pulmonary tuberculosis.

Considering that stages II and III combined form 80 per cent of our admitted population, and further that those cases are most of the time bilateral, it seems that 80 per cent of the patients admitted at Rutland in 1931 must have been cases for pneumothorax some time previous to their admission.

They come to us very late and oftentimes pneumothorax is not done because it is impossible; the patient is too far advanced, or adhesions have already formed.

It seems to me that the value of pneumothorax has been amply demonstrated. Until 15 or 20 years ago, only a few pneumothoraces were done and the prognosis in any case of pulmonary tuberculosis was frightfully poor. Very few patients were alive after five years, and almost none after ten or fifteen years.

I was studying a while ago the figures presented by Rist in Washington, D. C., in 1926 at the International Conference on Tuberculosis. Over a period of 20 years he found that only five per cent of the non-treated cases—those who had refused pneumothorax and those where pneumothorax was found impossible—were alive, whereas 50 per cent of the treated cases were well and working, and 20 per cent were still under treatment. To sum up: Of the treated cases 70 per cent were living after 15 to 20 years; of the controls after the same period only five per cent were living.

Dr. Peters' opinion that a certain period of observation should be allowed is very commendable, especially on new patients, and that two or three months' time in pulmonary tuberculosis should not make much difference. On the other hand, I wonder if up to lately we have

not been a little too free, in sanatorium work, in disregarding almost completely the time element in the treatment of the disease. Patients stay a year or two in the sanatorium on bed treatment alone; they go back to the community only to break down again and they have to return to the sanatorium, and begin all over again. Going back a few years over the records of such an institution as Rutland, we find that the number of readmissions is indeed too great, and the death-rate too high.

Dr. Peters only mentioned bilateral pneumothorax, saying that he preferred not to talk about things that he did not know from personal experience. I should be as wise and not say anything about it either, but I cannot help reporting on the little experience we have had in Rutland, giving it for what it is worth. It is the only way to learn. We had about 15 cases of bilateral pneumothorax, most of the time applied as a palliative measure because the cases were already too far advanced. It seems to me that in the past ten years we have had a tendency to apply pneumothorax unilaterally earlier and earlier, and our results have been all the better for it. I wonder if we are not showing the same trend in bilateral pneumothorax. If bilateral pneumothorax were started earlier, in well-selected cases, it would give better results than it is giving now. Even as a palliative measure it does wonders at times. We have three or four patients who are now walking around comfortably who, we can almost say, would be dead today had not it been for bilateral collapse. They had cavities on both sides showing fluid levels. Today the fluid levels have disappeared and the cavities can hardly be seen. Those patients have a normal temperature and practically a normal pulse and they are comfortable. Of course it is only palliative, it is delaying the issue, but, as I said before, the bilateral pneumothorax should have been applied earlier. One ideal case we had, I think, is that of a young man who came in from another institution where he had been kept in bed for about three years. In spite of that prolonged bed rest treatment he had an involvement of both upper lobes, with practically no fibrosis. Seeing no future for him, we tried bilateral pneumothorax as a last resort. By the grace of God and good luck a selective collapse of both upper lobes was obtained. There were no pleural adhesions, as we could have expected, and the young man did very well.

Dr. Peters said that with our improved technique, pneumothorax might be used more extensively and give better results. May I just mention, without unduly insisting, the principle of smaller refills at regular intervals, and condemn the practice of larger doses of air after too long a period. Those huge refills make the patients uncomfortable and do the lung no good, because they allow it to come out of collapse before collapsing it again. That accordion motion should be avoided.

A point often neglected that I wish to emphasize, is the importance of the fluoroscope in applying pneumothorax. The fluoroscope should be used before and after refills if possible. Unfortunately this practice is too often neglected. The reason may be that a fluoroscopic room is not provided. The fluoroscope is not accessible, or is accessible only to the technician or the man in charge of the x-ray department. It seems to me that there should be a good dark fluoroscopic room with an apparatus accessible at any time, where the men doing pneumothorax work could go as often as desired. It is important to see what we are doing, and we can oftentimes avoid discomfort for the patient and get better results.

Returning to the subject of results, numerous statistics have been published since those of Dr. Rist. Dr. Peters published one of his own in 1928, I think, in the American Review of Tuberculosis. His results were 40 per cent living and well at the end of 12 to 14 years, as compared with about 25 per cent in untreated cases.

Other statistics by Matson give about the same figures. Those of Rist, I think, are the most comprehensive. They cover a period of 20 years and give five per cent alive of the untreated cases at the end of 20 years, and 70 per cent of the treated cases.

Pneumothorax treatment has been coming more and more into general use, and it seems that we in America are simply following what has been done already for a number of years, especially in Central Europe, so far as I can judge by correspondence with friends in Switzerland. Their average of pneumothorax cases is about 45 to 50 per cent of their admissions, which average is still considerably higher than ours.

May I say again that I enjoyed Dr. Peters' talk very much.

CHAIRMAN MORGAN: We will now have the discussion of Dr. Whittemore's paper by Dr. Walter Gray Phippen of Salem.

DR. WALTER G. PHIPPEN, Salem: *Mr. Chairman*—I am not qualified to discuss Dr. Whittemore's paper from an operative point of view because I have not operated on any of these cases. As surgical consultant at the Essex County Sanatorium, I have discussed these cases at great length, with Dr. Pettingill and since Dr. Whittemore has spoken of the place of operation I will say that we have discussed that also at great length. When the new annex to the Sanatorium was built an operating suite was provided to take care of such work, if we should eventually decide to do it. We now do phrenicectomy there and any other surgery

necessary, but have not attempted thoracoplasty and at the present time we have no intention of so doing.

We both feel that until the finances of tuberculosis sanatoria are sufficient to equip the hospital with the properly trained personnel of nursing force, anesthetists, and resident surgeons who can adequately look after these cases postoperatively, it is inadvisable to undertake that work. I think that is about as Dr. Pettingill feels. At the same time we are discussing a great many of these cases. He would be here today to discuss this work but he happens to be away and has asked me to come and do it.

He is very anxious that we should add every little bit of information that we can about the results of thoracoplasty. We have a series of 21 cases of thoracoplasty which have been followed carefully since operation. One was operated by Dr. Archibald, the others either by Dr. Whittemore or Dr. Churchill at the Massachusetts General Hospital. We know perfectly well that in a small series of 21 cases such as we have, you cannot draw many conclusions. Of these 21 cases three have died, 11 have improved, in that they are clinically inactive and have a negative sputum; seven are unimproved, that is to say, they are clinically active and all have a positive sputum except one or two where the sputum has varied from negative to positive but mostly on the positive side. That roughly gives a percentage of 14 per cent deaths, 52 per cent improving, and 34 per cent unimproved. Leaving out the cases that have been done less than a year that roughly follows the percentages of Alexander, although he classifies one-third of the cases as cured. We do not think that the time is ripe to classify these cases as cured because the patient we have followed longest since operation, seven years, and who has worked five years of that time under observation as a nurse at the Sanatorium, has recently had streaked sputum and has been laid off for rest.

All these cases fulfilled about the same qualifications before operation; that is, they were all clinically active and quite far advanced. Practically all had signs of involvement at the apex, showing few or no signs of improvement after prolonged sanatorium care, and had positive sputum.

Of the three deaths one died of lung involvement, one died of tuberculous enteritis and the other died postoperatively of nephritis and coronary thrombosis.

We have examined these cases to determine whether there was any factor that we could find in this small series which had to do with their improvement or their unimprovement. So far as their condition beforehand was concerned, as I have told you, they all were about the same, so there was nothing in that from which to reason. So far as the duration of the disease was concerned, one of those who have improved the most has had the disease for 24 years, and so on down through the scale to three years. Of the unimproved, one of them has had it as long as 16 and one as few as three years. Residence in the sanatorium also seems to have about as little effect; one with about 15 years improved, and so on down to three, and of the unimproved one was there 15 years and so on down to two years.

With regard to complications, two with tuberculous larynges were improved and in neither of these cases has the larynx shown any signs of trouble since. On the other hand, two with tuberculous larynges are dead. Two had hemorrhages and these have improved and have shown no signs of bleeding since. None of those unimproved had had a hemorrhage.

Whether or not they had had pneumothorax beforehand also seemed to have little effect. Three had it and there was no free pleura, and five had not had it at all. That is of the improved group. Of the unimproved group four had had pneumothorax, with one it was attempted and could not be carried through, and with two it was not attempted at all.

The number of stages in which the operation was performed seemed to have little effect.

We did find, however, that the personal characteristics of the patient, as Dr. Whittemore has said, the equanimity with which the patient carried out the procedure of the after-care and the postural treatment following the operation seemed to have some effect.

By postural treatment I mean prolonged rest in bed for at least six months, at first with pillows compressing the operated side, then sandbags, and finally after getting up, wearing a compression belt or corset.

In conclusion I am simply going to show you a series of three plates each, of two patients, one of whom followed the treatment faithfully and the other who did not follow the treatment at all.

CHAIRMAN MORGAN: These two papers are now open for general discussion.

DR. JOHN B. HAWES, Boston: About a month ago I was in consultation on an Italian patient, a young girl, with hemorrhages. I spoke of pneumothorax to the doctor and his reply was, "My God, doctor, she has not come to that yet."

Until we can get that idea out of the minds of the medical profession we are not going to get very far. I feel very strongly that such discussions and such meetings as this are gradually going to do a great deal of good.

The figures which Dr. Dufault referred to were as follows: I obtained the opinion of 30-40 leading men in tuberculosis work in this country, i.e., California, New York, the Mid-West, and New England, etc., as to their opinion concerning the number of cases out of a given

hundred or given thousand that should at least be granted the opportunity of having some form of collapse therapy, pneumothorax or thoracoplasty, and the figures varied from ten per cent to fifty per cent.

Dr. Henry Chadwick, whom we all know, has 1,500 patients under his supervision in Detroit, 57 per cent of whom are receiving some form of collapse therapy. Dr. David Lyman of Wallingford, Conn., gave 70 per cent and Dr. Soper of New Haven gave approximately 60 per cent. Dr. James A. Miller of New York gave 30 per cent, and so on.

So, I think one can take as a fair average that somewhere around 30 to 40 per cent of the total number of cases of tuberculosis which we see should be given an opportunity to receive some form of compression therapy.

I looked up the figures of the six New England States, and tried to get as well as possible the total number of cases of pneumothorax phrenicectomy and thoracoplasty for the year 1930 in this area. From the figures thus obtained we found that the average for the New England States is four and two tenths per cent instead of from about 20 to 30 per cent. That in my opinion means simply one thing, that there are hundreds if not thousands of consumptives who are dying, whose invalidism is being prolonged simply because as a whole the medical profession is either unwilling to follow or is unacquainted with the perfectly wonderful things which pneumothorax phrenicectomy and thoracoplasty are doing in properly selected cases. I think we owe these men who are doing it, Dr. Whittemore, Dr. Churchill and others an immense debt of gratitude for popularizing the whole subject.

Dr. Moses J. Stone, Boston: *Mr. Chairman and Members*—The end results of pneumothorax treatment are sometimes condemned and again enthusiastically applauded by some physicians. While artificial pneumothorax needs no defense in our armamentarium of therapeutics, some feel a good deal happier about it than others. I wonder whether we can ascribe it entirely to individual enthusiasm. So far, we have given very little credit to the technique of pneumothorax therapy. This, I feel, is a good deal more than the mere insertion of the needle. Whether it is done with a large or small needle, with some pain or freedom from pain is not the important question. Artificial pneumothorax is a distinct procedure and requires training and experience. I want to emphasize what Dr. Dufault said about the necessity of frequent fluoroscopic examinations. Without easy access to a fluoroscope, this form of therapy cannot be properly carried out. The physician must always be on the alert for the development of pleurisy and must cease treatment during the acute or the irritable stage. The effect of the pressure on the mediastinum is very important. I have seen many a patient made worse by shifting the mediastinum too far. Whether fluid should be removed or left there indefinitely is still debatable. This is a procedure that requires great care, and as in other forms of surgery, long apprenticeship is required before one can attempt to carry out collapse therapy. The frequency of refills, the amount of compression, the removal of fluid and the many adjuncts that go with artificial pneumothorax, such as oleothorax and the Jacobeus operation are very important factors in the treatment of tuberculosis. It is my hope that in the future the question of the technique of artificial pneumothorax therapy will receive greater attention at these meetings, as it requires a good deal more judgment and medical acumen than the mere insertion of a needle in the thoracic cavity.

Dr. Harvey S. Wagner, Pocasset: I would like to ask Dr. Whittemore to what extent a partial pneumothorax, that is, limited by adhesions, would spoil his operative area in thoracoplasty.

Chairman Morgan: Any further discussion?

Dr. Edward D. Churchill, Boston: I wish to call attention to a group of patients being treated by pneumothorax whom I feel should have a different form of treatment than they are receiving at the present time in this community. These are the cases in which the goal of pneumothorax has not been reached, namely, those in whom the lung is held out by adhesions and cavities remain with inadequate collapse. We all know that in the chronic stages of tuberculosis a patient may live for years with a large cavity, discharging tubercle bacilli without infecting the other lung or getting into serious difficulty in other ways. Pneumothorax, however, is usually instituted during an acute phase of the disease, instituted in the patient in whom the important factor of immunity has not been fully ascertained by prolonged observation. In observing the cases treated with pneumothorax by my medical colleagues, I have come to believe that the patient with a cavity only partially collapsed is in a very precarious situation. The other lung is very liable to become infected, pleural effusions are very apt to form and progress to tuberculous empyema.

This group of patients can be materially aided by the Jacobeus procedure of pneumolysis.

In 1926 I took the trouble to go to Stockholm and sat beside Professor Jacobeus as he operated on several cases convinced of the efficacy of his method. I brought back an instrument with me at that time. The number of cases that have been referred for pneumolysis from this community since 1926 has been only twenty to twenty-five. In the same period or less, the Saranac Lake series has numbered more than a hundred

and the Matson brothers have reported an even larger number. It is a relatively simple and very efficacious procedure and I think it should be used more often by the pneumothorax practitioners than is being done at the present time. I particularly urge pneumolysis if artificial pneumothorax therapy is to be extended into the group of juvenile cases in which as complete collapse as possible should be our goal.

CHAIRMAN MORGAN: Anyone else? Dr. Peters?

DR. PETERS: I have not much more to say. I am very glad that Dr. Churchill mentioned the matter of pneumothorax cases in which an unsatisfactory collapse was obtained because they are very numerous. In fact, a satisfactory collapse, as Dr. Pope and I have found in the series we examined, is obtained in only about 40 per cent. So, allowing 20 per cent for operative failures, that means that another 40 per cent of your pneumothorax cases are going to be unsatisfactory from the point of view of collapse and may require other measures.

Also, while at the Loomis Sanatorium we looked up the end results of cases of unsatisfactory collapse and found them very little better than cases with no pneumothorax at all. That is an argument that they must have something else done because the beneficial results for the entire pneumothorax group were almost entirely due to effective and satisfactory collapse, that is, the 40 per cent where we obtained a satisfactory collapse; and the 40 per cent that did not obtain a satisfactory collapse must have something else done if possible.

There are one or two other matters. I think one may provide pneumothorax either too early or too late. Certainly one does not want to wait until the patient is in too advanced a stage, and I think there is also such a thing as rushing into pneumothorax too early in some cases without sufficient observation. The time element, as Dr. Dufault said, must of course be considered, but that works both ways because if you give a patient pneumothorax the probabilities are that he is going to have to continue it on the average of at least two years. It is possible that in patients with an early type you can let the lung reëxpand within that time, but I think most of us hesitate to do that. So, it means that the patients must practically be under sanatorium conditions for at least two years and some of them more than that.

The figures quoted by Dr. Dufault, as referred to by Dr. Rist, dealt with comparison of patients whom he regarded as favorable for pneumothorax, who refused pneumothorax, compared with patients whom he regarded as favorable who accepted the operation. That is, they were not an entire group, so that it is possible to come to some misunderstanding if one does not realize that.

Finally, as to bilateral pneumothorax, and again I say I speak from little or no experience, it appears that most bilateral pneumothorax cases have to be discontinued of necessity because something happens, the lung becomes adherent, or perforation occurs on one side or the other. I think there is no question that the figures show that pulmonary perforations are very much more common, several times as common in bilateral pneumothorax cases as in unilateral pneumothorax cases, so the risk is increased by just that much.

I think among the indications for pneumothorax is the presence of a persistent positive sputum. The presence of definite persistent activation should be emphasized. I think that is about all I have to say.

CHAIRMAN MORGAN: Dr. Whittemore?

DR. WHITTEMORE: I am very glad Dr. Phippen showed his slides of cases. As a matter of fact, Dr. Pettingill talked to me about this question a week or two ago. It has always been a source of mystery to me why, taking two cases both of which had the same operation for much the same disease, that one had a very poor result eventually and the other a very good one. I think that the after-care is of the greatest importance.

I wish I could answer Dr. Wagner's question about how much the pneumothorax interferes with success in thoracoplasty, but I have had practically no experience in this and have heard very little about it, but it is my feeling that it may interfere a great deal.

CHAIRMAN MORGAN: This completes our program for the afternoon.

REPORT OF NOMINATING COMMITTEE

The Chairman during the Session appointed the following Nominating Committee: John B. Hawes, Boston; P. B. Davidson, Boston; Walter A. Griffin, Boston.

The Committee retired and returned with the following nominations:

For Chairman, Dr. Roy Morgan, Westfield.
For Secretary, Dr. Donald King, Boston.

Upon motion duly made and seconded it was

Voted: To accept said report and that the Secretary be instructed to cast one ballot for said nominees.

The Secretary having cast a ballot as directed, the Chairman declared Drs. Morgan and King elected to their respective offices for the ensuing year.

The Chairman appointed the following Committee to consult with the Commissioner of Health on the State Clinic: Dr. Frederick T. Lord, Boston; Dr. John B. Hawes, Boston; Dr. Joseph H. Pratt, Boston; Dr. Harvey S. Wagner, Pocasset; Dr. George D. Henderson, Holyoke.

Adjourned.

NEW HAMPSHIRE MEDICAL SOCIETY

GENERAL MEETINGS

THE One Hundred and Forty-First Annual Meeting of the New Hampshire Medical Society was held in the Ballroom, Hotel Carpenter, Manchester, Tuesday, May 17, 1932, at 10 A. M., with the President, Dr. George C. Wilkins, Manchester, presiding.

PRESIDENT WILKINS: *Gentlemen of the New Hampshire Medical Society*—It is my duty to call this meeting to order for the One Hundred and Forty-First Annual Meeting of the Society.

You will all please rise and reverently listen to the invocation of Father Alphè Leclerc.

INVOCATION

"I was sick and you visited me."

These selfsame words were spoken two thousand years ago by the God-Man who came on earth to cure bodies and save souls.

There is no possibility of mistaking the far-reaching import of that series of our Master's sayings from which this text is taken. It is clear that the responsibility involved in our Lord's declaration does not affect all men equally, for the degrees of our opportunity of thus rendering service to our fellow-citizens and brethren and through them, to Jesus Christ, vary enormously and incalculably. It is your privilege, as medical men, and therefore, your responsibility, to form, by reason of your worthy and sublime profession, a distinct class of those to whom our Lord's thanks as well as His reproach, will one day be addressed: "I was sick, and you visited me. I was sick, and you did not visit me." To none should it be more easy, to none is it more necessary, to see Jesus Christ in even the least of His brethren, than to those who are called to the trying ministry of practicing medicine or surgery among mankind. They are brought closer to the real facts of life than any outside the Divine Priesthood. They see life at its very dawn, they watch over it through the helplessness of infancy, they are constant witnesses of vital processes which their art and science can observe and follow to a certain point, but are powerless adequately to explain. The farther their research may carry them the more wonderful are the mysteries that they discover. The only Shakespeare said many times in his works: "There are more mysteries between Heaven and Earth, than a man can possibly discover in a life-time." If the heavens are continually telling the glories of God, still more are the marvels of the human body continually proclaiming the boundless power and resourcefulness of the Creator.

You are daily witnesses, too, my Dear Doctors and Brethren, of the dependence of all men upon their fellow-men. You see how the sick and the ailing ones look hopefully to your coming, and hang confidently upon your words and advice, and unquestionably give you their obedience, trusting alike to your scientific wisdom and to your Christian sense of uprightness. In virtue of your calling you exercise an authority and you claim an attention which men gladly and willingly give to you on account of the trust that they have placed in you. And you know well, understand fully and daily realize, in the depths of your hearts, that you are worthy of that great human trust only if you, in your turn, acknowledge the sovereignty of God, the Creator and the Giver of all good gifts in life, from whom all knowledge comes, and who alone can guide you safely and guard you from error and mistake.

In the unveiling of the secrets of bodily misery and disease, you see also, often very closely, as closely as the priest perhaps, the weakness and frailty of human souls. You watch the interplay of mind and body, of spirit and matter, which so often explains, and often, too, renders more difficult of explanation the abnormal phenomena that you are tracing to their source. You are brought very close to immortal souls, and your characters, your words, the principles which animate your professional lives are, consciously and unconsciously, influencing your patients, not only for the healing and upbuilding of their bodies, but for the development or stunting of their spiritual lives as well. I fear not to say that you are God's providential instruments to many for this life and for the next. You can discharge your duty, faithfully and beneficently, as Christian Doctors and American Fellow-Men, only if you remember in all ways and at all times your responsibility to and your dependence upon Your God and Master.

I know that in your choice and practice of the medical profession, the claim upon your service to mankind that I am sketching is not the only one, not even the only legitimate one. You have chosen that career, you are doctors and surgeons, famous specialists in various departments of the art and science of medicine and surgery, doubtless, from many reasons and motives, all having a due place in the decision that ultimately led you to that choice. Family circumstances, scientific bent of mind, hopefulness of not improbable worldly success, desire to follow a special line of study, keen and broad philanthropy, other undefined and undefinable, seemingly fortuitous influences, have set before you the particular profession that you have embraced; and have probably determined similarly the special nature of the work to which you are devoting yourselves. All these things have acted and are still acting as so many incentives to enable you to overcome difficulties and to give your talents, your time, your energies to the service of your brethren.

God shows His will, and leads us on to do work for Him in all these ways, and we may be safely guided by such indications so long as they do not blot out from before our eyes the hand that has traced them.

On an occasion like this, when many leaders of your great calling are gathered together from all over New Hampshire, from outside the State, far and near, united, in spite of differences of education, of political conception, of scientific views, as one Christian brotherhood to coöperate in the service of mankind, it is right to rise by a more conscious and sustained effort to a remembrance of the only fully adequate motive for the work of devotion to which your lives are dedicated. Other motives there are, more or less perfect, but for those who accept the teachings of the Church and the Gospels, one motive is supreme and embraces all the rest, namely, the seeing of Jesus Christ in the person of His Brethren our fellow-men.

It is for that reason that I have gratefully accepted your so kind and courteous invitation to stand here today as a priest of God and to beg the Giver of all gifts to bestow abundantly upon your convention and discussions his choicest blessings.

May God Himself enlighten the intellect, strengthen the will, keep full the hearts of all these

illustrious doctors, and guide them on learnedly, prudently and zealously many, many years, for good health and long life among their fellow-citizens.

And so, Dear Doctors and Brethren All, you may confidently and hopefully look forward to that day when, so far as the life of the body is concerned, all healing arts shall have failed, and your souls will be alone before Him who died to save you. May He then say to each and every one of you: "I was sick and you visited me. Enter thou into the joy of thy Lord."

PRESIDENT WILKINS: You will next listen to an address of welcome by our Mayor of the City of Manchester. This occasion is rather unique because it is not often that a Mayor of our city is also a physician and a member of our own Society. Dr. Damase Caron.

ADDRESS OF WELCOME

Mr. President—In behalf of the citizens of Manchester, I extend a cordial welcome to the New Hampshire Medical Society on the occasion of its 141st annual convention.

I assume that it is the first time in the history of our beloved city that a member of the medical profession has had the privilege of welcoming a convention in the capacity of Mayor.

I feel therefore doubly happy in being a doctor and permit me to say also in being the Mayor of the Queen City of New Hampshire.

I sometimes wonder if the relatively mild climate of New Hampshire, and our mountains and seashore, our deep forests, our lakes and rivers, are not the best preventive against all kinds of diseases.

Human organism, however, is frail and needs the help of the medical profession. It is for all of us a source of great satisfaction that the medical science in New Hampshire has made progress with leaps and bounds over a period of nearly a century and a half and that at the present time it stands comparison with the progress made in the neighboring states.

It may be found that Manchester has no civic hospitals, with the exception of one for contagious diseases, but it boasts of many private institutions which have the best rating among similar institutions of the country.

Gentlemen, the gates of our city are open and so are the hearts of its citizens.

PRESIDENT WILKINS: You will now listen to the report of the Committee on Arrangements. The Chairman of the Committee, Dr. Joseph E. Larochelle, will make the report.

REPORT OF COMMITTEE ON ARRANGEMENTS

DR. JOSEPH E. LAROCHELLE:

Mr. President, Reverend Father, and Gentlemen—My first duty as chairman of the Committee on Arrangements is to extend to all members of the Society a hearty welcome from the members of the Manchester Medical Society. Manchester has been favored more in the last few years than formerly in obtaining the assembly of your honorable body for the deliberations of your work and we appreciate this honor. It is always a great pleasure for a sister to have as a guest her older sister.

I call your attention to the program so well prepared by your efficient Secretary. It will explain to you better than I can all your inquiries regarding the procedure and organization of this meeting

We have a large number of exhibitors. Those men have come here at great expense on their part and for our benefit. I hope you will patronize those houses in preference to others in case you desire to buy such equipment, not only now, but in the future.

I recommend also a large attendance at the lectures which have been well prepared by capable men for your interest and profit.

The tickets for the banquet will be sold at the door, and we expect a large attendance.

I thank every member serving on the different committees of arrangement for his excellent work. We have prepared entertainments of various kinds and the president will announce them later.

INTRODUCTION OF VISITING DELEGATES

PRESIDENT WILKINS: The next on the program is the introduction of visiting Delegates. I would like to ask if there are any Delegates present from Maine? I received a telegram from Dr. J. D. Phillips, of Southwest Harbor, in which he expressed his regret for his inability to be here.

Are any present from the Massachusetts Medical Society? Two persons responded: Dr. Carl Copeland MacCorison of North Reading Sanatorium and Dr. Thomas Raymond Healy, 370 Marlborough Street, Boston. If either of the Delegates wishes to say anything we will be very glad to hear him.

DR. THOMAS RAYMOND HEALY: *Mr. President*—I bring the greetings of the Massachusetts Medical Society to the New Hampshire Medical Society. I feel as though I were among friends. I find so many of my friends here whom I have known all my life, and from the way they welcomed me I feel as if I belonged here.

PRESIDENT WILKINS: We would like to have all visiting Delegates feel at home, if possible.

INTRODUCTION OF MEMBERS IN PRACTICE FIFTY YEARS

PRESIDENT WILKINS: The next duty devolving upon the presiding officer is one that gives me great pleasure, the introduction of members in practice for fifty years. We have two distinctions in this Society, the recognition of men who have been in practice fifty years and those who have been members of the State Medical Society for fifty years. It frequently happens that these men did not join the Society immediately after they entered practice, and consequently the two events are not identical in many cases. Tomorrow we are going to honor two members who have been members of the Society fifty years. Dr. Herbert S. Hutchinson, Milford, will be presented with a gold medal of the same kind as the one presented to Dr George W. Weymouth, Lyme.

Of those who have been in practice for 50 years I will refer, first, to Leonard Jarvis, of Claremont. Is he present? (Not present.) Is Ira Joslin Prouty, Keene, present? (Not pres-

ent.) Is Dr. Edward H. French, of Wollaston, Massachusetts, present? (Present.)

Ladies and gentlemen, it gives me a great deal of pleasure to introduce Dr. French to you. I am sure some of you may not know Dr. French very well because most of his work has been carried on in Massachusetts. Dr. French graduated from Dartmouth in 1882, and was for a long time associated with that grand old man, Dr. Bancroft, at the State Hospital, in Concord. He lived and married there and then went to Massachusetts and built and conducted for 25 or 30 years the Medfield Insane Hospital. Dr. French is now retired from the practice of medicine but he has the very good sense to have a summer home in Manchester and in Andover at the Ragged Mountain Fish and Game Club. He and I have camped and tramped together through the hills and woods of New Hampshire. We have also slept in the same pup tent, and he says that I snore, and I know he does. I can recommend Dr. French to you as a very good and dear friend.

Dr. Edward H. French: *Mr. President*—I thank you and the members of the Society.

President Wilkins: I am very sorry the other two members are not present. Most of the members are well acquainted with Dr. Prouty and Dr. Jarvis, and I hope that some succeeding President may have the pleasure of presenting gold medals to them when they have been 50 years in membership.

Dr. Thomas W. Luce, of Portsmouth: *Mr. President*—It is my understanding that Dr. Prouty is very seriously ill, and I should like to suggest that the Secretary be instructed to send him a telegram expressing our condolences and hopes for a speedy recovery.

President Wilkins: I am very glad you suggested that, Dr. Luce, and the Secretary will forward our condolences as well as our hopes that he will soon recover.

The first paper, "The Conduct of Normal Labor" was read by Dr. Benjamin P. Burpee, Manchester, and discussed by Drs. Donald G. McIvor, Concord, Chester F. McGill, Portsmouth, Richard W. Robinson, Laconia, Ezra A. Jones, Manchester, Herbert S. Hutchinson, Milford and Dr. Burpee.

Dr. James B. Woodman, Franklin, presented a paper entitled "Appendicitis," discussed by Drs. A. A. Beaton, Franklin, John F. Gile, Hanover, A. C. Johnston, Gorham, George S. Foster, Manchester, Lawrence R. Hazzard, Portsmouth, Paul Dye, Wolfeboro, David W. Parker, Manchester, Thomas W. Luce, Portsmouth, J. C. Tappan, Derry, and Dr. Woodman.

Tuesday, May 17, 2 P. M.

Vice-President Chesley: *Gentlemen*—please come to order. It is a pleasing custom of this Society to be favored annually with an address by its President; and we now have the pleasure of listening to this address of Dr. George C. Wilkins.

Dr. Wilkins delivered the President's Address.

Vice-President Chesley: *Gentlemen*—I think the address to which you have just listened, with its suggestions, should be referred to the Committee on Officers' Reports of the House of Delegates, and the Chair will be pleased to entertain a motion to that effect.

On motion, duly seconded, it was

Voted: To refer the President's address to the Committee on Officers' Reports, House of Delegates.

President Wilkins: I have an announcement that Dr. Rock has asked me to make. The New Hampshire Surgical Club meeting will be held at the Elliott Community Hospital at Keene, on Tuesday, May 24. The programs are in the mail and all are urged to attend.

The following papers were read and discussed:

Postmortem Lethargy. Carleton R. Metcalf, Concord. Discussed by R. E. Miller, Hanover; Howard N. Kingsford, Hanover; David W. Parker, Manchester.

Inversion of the Uterus. With report of an unusual case. Emery M. Fitch, Claremont. Discussed by Robert H. Brooks, Claremont; Charles F. Keeley, Claremont; Chauncey Adams, Concord; Fred E. Clow, Wolfeboro; John J. Boardman, Hanover; Paul Dye, Wolfeboro.

Anorexia Nervosa. With report of cases. (Lantern slides.) Fred E. Clow, Wolfeboro. Discussed by Harry T. French, Hanover; Fred E. Clow.

Tuesday Evening, 7:30 O'Clock

In the assembly hall there was held a public meeting with many lay people present. An illustrated talk on patent medicines was given by Arthur J. Cramp, M.D., Chicago, Ill., Director, Bureau of Investigation, A. M. A., and the "Legend of Gosport Town" was recited by William Hale, M.D., Gloucester, Mass.

Abstract of an Illustrated Talk Given by Arthur J. Cramp, M.D., Director, Bureau of Investigation of the American Medical Association. (Lantern Slides.)

Patent Medicines and the Public

Mr. Barnum said that the public likes to be humbugged. It probably doesn't. But it *is* humbugged to the extent that it lacks knowledge, and in the realm of therapeutics, the public's lack of knowledge is great. Voltaire said that the charlatan was born on the day that the first fool met the first knave. But the history of quackery proves that

quacks can batten upon wise men as well as upon fools. It is not a lack of brains that breeds credulity but a dearth of knowledge.

This year, the people of the United States will spend over three hundred million dollars for what we call "patent medicines"—that is, package medicines, usually secret in composition, sold for the self-treatment of human ailments. Whenever the medical profession points out the dangers inherent in "patent medicines", the cry is raised that its criticism is inspired by selfishness, that the remedies are competitors of the doctor, and that their sale diminishes his income. Nothing is farther from the truth. Of a hundred people who read, say, a "kidney pill" advertisement and are frightened into the belief that a pain in the lower back means kidney disease, more than half of them will go to their family physician rather than to the drug counter. Were the physician's attitude toward "patent medicines" prompted by commercial considerations, he would say to the medicine maker: "Go the limit; the more victims you get, the more patients I get!"

What we colloquially call "patent medicines" are not patented at all. A real patent medicine must represent a new and useful invention. Patent means open; no secrecy; no mystery. Not being able to patent his product, the maker of so-called patent medicines coins a fancy name for his mixture and gets a trade-mark on that name. This gives him what is essentially a perpetual monopoly in the use of the name. The so-called patent medicine is a proprietary medicine. One buys a name, not a thing. From a business standpoint, the least important thing about a "patent medicine" is its composition; the most important is its name.

The testimonial is the sheet anchor of the "patent medicine" business. It is a human characteristic to give credence to testimony. However, testimony on subjects beyond our knowledge is not competent. Most "patent medicine" testimonials are documentarily genuine, but incompetent.

Medicaments are a special class of merchandise. The seller of general merchandise has nature as an opponent—wear and tear. The seller of drugs has nature as an assistant, for the tendency of the body is, usually, to get well. When John Doe feels "out of sorts", he will, in all human probability, be all right again in a few days, whether he does something or nothing for his condition. If, in the meantime, he takes a bottle of "patent medicine", he will insist that his recovery was due to the medicine. As a matter of fact, in more than eight cases out of ten, the cure was brought about by nature. John mistakes a sequence of events for cause and effect.

John Doe little realizes when he pays a dollar for a bottle of "Dr. Quack's Quick Relief" that about seventy-five cents of his dollar has been expended in the manufacturer's effort to convince him that he is suffering from some ailment for which the "Quick Relief" is said to be a cure. The cheapest thing about a "patent medicine" is its composition. The most expensive thing is the advertising which sells it.

Modern advertising differs from that of a generation ago. It strives to *create* rather than *fill* demand. It is the art of making people want what they otherwise would not know about. There may be a possible economic excuse for such advertising of general merchandise, but there is no excuse for making well people think they are sick for the purpose of stimulating sales of "patent medicines". The greatest indictment against the "patent medicine" is not that "patent medicines" may contain poisonous or habit-forming drugs, but that it makes a nation of hypochondriacs, and does so deliberately for the purpose of stimulating the use and sale of drugs.

Wednesday, May 18, 10 A. M.

The program:

Some Pathological Problems. Albert C. Johnston, Gorham. Discussed by Drs. O. H. Hubbard, Keene; R. E. Miller, Hanover; George S. Foster, Manchester; Dr. Johnston.

Diagnosis of Early Pulmonary Tuberculosis. Byrl R. Kirklin, Mayo Clinic, Assistant Professor of Radiology. Discussed by Drs. Fred S. Eveleth, Concord; Robert M. Deming, Glencliff; Edward O. Otis, Exeter; L. K. Sycamore, Hanover; A. S. Merrill, Manchester; R. B. Kerr, Manchester; Byrl Kirklin, Mayo Clinic.

The Attenuation of Measles. Colin C. Stewart, Jr., Hanover. Discussed by Drs. Paul Dye, Wolfeboro; A. L. Winograd, Nashua; Colin C. Stewart, Jr., Hanover.

Motion Picture with Sound: *Repair of Second and Third Degree Lacerations of the Perineum and Rectocele.*

Wednesday, 2 P. M.

Presentation of 50-Year Membership Gold Medals to George Weare Weymouth, Lyme; Herbert S. Hutchinson, Milford.

President Wilkins: *Ladies and Gentlemen*—It becomes my very great pleasure this afternoon to present gold medals to two of our members who have been in practice for over 50 years and who have been members of the New Hampshire Medical Society for that length of time. Out of the total number of members or practitioners in the state who are here now probably very few will reach the point where they can come before the Society and be presented with a gold medal. This idea of presenting a medal was originated by Dr. H. O. Smith, a former President, and is an admirable gesture to the men who have arrived at this venerable age, although neither one of them looks very old. I told Dr. Weymouth that I expected to see an old man because I have never met him before.

I think it is rather fitting at this particular time to say that these two men represent the real type of family physician, the old general practitioner. They have both practiced in the country, in the smaller towns, and have traveled the roads with teams and horses, probably on horseback, and they unquestionably have encountered all of the difficulties that attended the practice of medicine many years ago. It is difficult for some of us younger men to realize the condition of practice when these men started.

Dr. Weymouth was born in Andover, New Hampshire, in 1856. His father practiced in Andover for 65 years. I remember his father as being pointed out to me when I was a very young physician and had just become a member of the New Hampshire Medical Society, and have a very distinct picture in my mind of old Dr. Weymouth, with his long white beard, and he was designated as the oldest practicing physician at that time, and was quite active. Dr. Wey-

mouth graduated from Dartmouth in 1878 and from the same college in 1882 with his medical degree. He settled first in Andover and then removed to Lyme, New Hampshire, where he has practiced ever since. The very interesting thing about Dr. Weymouth is his popularity in his own town. I understand that Dr. Weymouth is a Democrat! There are some, apparently. Most of his townspeople are Republicans, if not all of them, but not long ago from that solid Republican town Dr. Weymouth was elected to the Legislature and served.

The other recipient is Dr. Herbert S. Hutchinson, of Milford. Dr. Hutchinson graduated from Bellevue Hospital Medical College in 1880 and went immediately to Francestown, New Hampshire, where he opened his office on July 4—probably intending to capture some of the accidents that occurred that day. He did not like Francestown well enough to stay there very long and removed to Milford, where he has remained ever since. It has been my pleasure to have had the acquaintance of Dr. Hutchinson for a good many years, and I have always appreciated his kindliness and his good judgment.

Dr. Weymouth, it is my pleasure to present to you, in behalf of the New Hampshire Medical Society, this gold medal which commemorates the fiftieth anniversary of your becoming a member of this Society.

Dr. Hutchinson, it also gives me a great deal of pleasure to pin this medal on you. I have known you a long while, and I like you. This is presented by the New Hampshire Medical Society in commemoration of the fiftieth anniversary of your connection with the Society.

DR. HERBERT S. HUTCHINSON, of Milford: *Mr. President and Members of the Society*—I am deeply appreciative of your courtesy on this occasion and am very glad to be able to be here. Dr. Wilkins has said something about this other gentleman who participates in the pleasure this afternoon as being the old-fashioned resident family physician, and we plead guilty to that indictment. I do not believe that a great many of you can appreciate exactly what that means, and I am very glad for your sake that you cannot. Dr. Wilkins spoke about going on horseback sometimes in order to reach our patients. We can do better than that, or worse. The time has been when I had to crawl on top of a wall for half a mile to reach a house on account of deep snowdrifts. Other things of that kind might be mentioned, but I will not stop to speak of them now.

This badge with which we are presented this afternoon resembles in some respects the Cross of War, so-called, with which you are familiar and which was often spoken of in the late World War. It differs from that cross in one particular, that is, whereas the cross of war was presented to the man who showed exceptional ability in killing people, this medal is presented to us for fifty years' service on the line in trying to save people's lives.

It is with a deep sense of pride and gratification that I am here this afternoon—pride in being a member of this Society which represents our noble profession in New Hampshire—gratification in realizing that I have been able to be on the firing line for fifty years in saving people from suffering. I thank you.

PRESIDENT WILKINS: Dr. Weymouth, may we hear from you?

DR. WEYMOUTH, of Lyme: *Mr. President and Members of the New Hampshire Medical Society*—This occasion marks the fiftieth anniversary of my membership. You are taking up valuable time to decorate me with a medal and to listen to me. I thank you for the medal. I will open by stating that I am a son of a doctor who kept on his job 65 years; the sum total for both of us is 115 years that the dear public has suffered from our ministrations. I remember some 60 years ago of first attending one of the sessions with my father and became enthused to choose medicine for my life-work. Seldom a year have I missed a meeting. I recognize that I am the only one of the 1882 vintage. The personnel of our profession has greatly changed since then; only one doctor besides myself—Dr. Drake of Lebanon—is living, of those who were practising in the towns between Woodsville and Concord. Similar reports elsewhere I dare say. Great changes in practise have occurred. In 1882 we were hearing about Listerism, the discovery of Koch and the Trudeau treatment of tuberculosis. I remember witnessing a professor of surgery at Dartmouth operate. He may have been a follower of Lister in theory but in practice he put his knife in his mouth at intervals the same as we have seen a butcher. In my postgraduate course in N. Y. I first noticed the use of carbolic acid spray in surgical operations. In 1882 there was no antitoxin for diphtheria or tetanus; no immunization for typhoid fever, diphtheria, or scarlet fever, no appendicitis or operation for it. No local anesthetic, no x-ray, no blood pressure instrument, clinical thermometers and hypodermic syringes were scarce. Operations for hernia, diseases of the gall bladder, prostate, and other abdominal conditions were quite rare in sections outside of large cities. For some years it was quite difficult to drive a patient to a hospital; now just drop the word and they are eager to go. The treatment of nearly every disease has changed: diabetes, the anemias, thyroid disease, pneumonia. In 1882 veratrum viride and hot flaxseed meal poultices were used largely in pneumonia. Even the practice of the laity has changed. Who hears now of "nanny plum tea" for measles or green cow dung for burns, puff ball or cobwebs for

hemorrhage? The disciples of Ettmüller, who abridged the family doctor's book published in 1712, have gradually yielded to Christian Science, the chiropractor and Rawleigh's patent medicine. We hear occasionally about the profiteering doctors. In 1843 according to my father's daybook, he was doing his obstetric work for the great sum of $3 per case. Within a year I have heard of a doctor charging $45, the patient living one mile from his office and of his reaching the bedside just in time to tie the cord. All business has its profiteers in age. To all such critics of the medical profession I ask—Did you ever hear of a doctor accumulating a fortune? If he does he must have a hobby outside. No! Our profession as a whole is doing more charity work taxing grey matter and comfort than any kind of business. Ours is a grand profession and ranks ahead of the priest according to a pious old lady's remark. I hope all the brothers here today will receive a medal for I believe any doctor deserves one if he has practiced five years, but if you have to wait till you have practised fifty years please take none of your own medicines. I thank you.

SYMPOSIUM ON CANCER

Radiation in Operable Cancer. Douglas Quick, Surgeon to Memorial Hospital, New York City.

Responsibility of the Medical Men in the Control of Cancer. Burton T. Simpson, Director of the New York State Institute for the Study of Malignant Disease, Buffalo, N. Y. (Lantern slides.) Discussed by Ernest M. Daland, Boston; James W. Jameson, Concord.

The Secretary gave a résumé of the doings of the House of Delegates.

REPORT OF TRUSTEES

PRESIDENT WILKINS: You will now listen to the report of the Trustees, by Dr. Thomas W. Luce.

REPORT OF THE BOARD OF TRUSTEES

The Board of Trustees of the New Hampshire Medical Society submits the following report for the year ending May 1, 1932.

RECEIPTS

1931		
July 7—Received from D. E. Sullivan, Treasurer		$500.00
Sept. 13—Received from Merrimack River Savings Bank liquidating dividend 50%		916.99
		$1,416.99

EXPENDITURES

1931		
July 13—Paid D. E. Sullivan for expense as delegate to A. M. A.	$80.66	
1932		
Jan. 21—Paid Bridge & Byron for printing Pray Prize notice and stamped envelopes	20.00	
		100.66
The balance deposited in Portsmouth Trust & Guarantee Co.		$1,316.33

The Bartlett Fund

Deposit in Portsmouth Savings Bank, Book No. B21110	$5,110.15

The original fund, $352.11, by the terms of the bequest is kept as a permanent fund.

The Pray Fund

Deposit in Strafford Savings Bank, Dover, Book No. A42	1,236.75

$1,000.00 must be kept as a permanent fund, the income of which is to be expended for prize essays.

The Burnham Fund

Deposit in the New Hampshire Savings Bank, Book No. 80106	2,014.73

$1,140.00 must be kept as a permanent fund and income expended for prize essays.

General Fund

Deposit in the New Hampshire Savings Bank, Concord, Book No. 35696	4,475.87
Deposit in the Portsmouth Trust & Guarantee Co., Book No. 12813	1,884.12
Total of Funds on Deposit	$14,721.62

Permanent Funds Not Available for General Uses

Bartlett Fund	$352.11	
Pray Fund	1,236.75	
Burnham Fund	2,014.73	
		3,603.59
Amount available for general uses		$11,118.03

Balance in Merrimack River Savings Bank in liquidation Book No. 26934	$916.98

Prizes will be offered in 1933 from the Pray and Burnham Funds, notices of which will be sent to each member of the Society.

Respectfully submitted,

A. H. HARRIMAN,
THOMAS W. LUCE,
Trustees.

We, the Trustees of the New Hampshire Medical Society, have examined the account of Dr. D. E. Sullivan, Treasurer, and found it correctly cast and properly vouched.

THOMAS W. LUCE,
For the Trustees.

INSTALLATION OF OFFICERS

PRESIDENT WILKINS: *Ladies and Gentlemen*—One year ago I stood on this platform and received this gavel from the previous President, Dr. Hubbard. The gavel represents the symbol of authority of a President of the New Hampshire Medical Society. At that time I felt my unworthiness, perhaps, to assume this office, and I still feel the same way, but it gives me great pleasure to turn the gavel over to our Vice-President and newly elected President, Dr. Harry O. Chesley. I assure you there is no one in the Society that I think can assume the duties of this office more satisfactorily than Dr. Chesley.

PRESIDENT-ELECT HARRY O. CHESLEY: *Mr. President and Members of the Society*—I wish to thank the retiring President for his over-generous introduction. I wish I merited it or could live up to it.

Now I wish to return the compliment to him, which I think is well deserved, by saying that it is my hope, or, in other words, that I should be very happy if I thought I could carry on with the ability, the energy, and the efficiency which he has shown in the conduct and management of this office during the past year.

I know it is getting late and you do not want to hear very much from me at this time, but I should like to introduce Dr. Graves, your newly elected Vice-President. Will he come forward to the platform?

PRESIDENT WILKINS: In introducing Dr. Robert Graves as the Vice-President-Elect of this Society, I feel that he is too well-known to you to require any encomium from me, but I do wish to say that I am happy to have this opportunity of presenting Dr. Graves as the Vice-President-Elect of this Society.

VICE-PRESIDENT-ELECT ROBERT J. GRAVES, of Concord: I am still suffering from shock and surprise. I hardly know how to express my appreciation of the courtesy and honor. Certainly that appreciation is very much greater than my admiration of your judgment, but I have rather taught myself not to worry, and, so far as I can see, my only concern next year is that Dr. Chesley keeps well. In the course of the year I hope to learn how to follow properly in the footsteps of my illustrious predecessors. We certainly have had a wonderful administration this year, and we are going to have another next year and possibly the year after, if things go on as may be supposed. We will try to avoid any decline in efficiency. I thank you very much.

PRESIDENT-ELECT CHESLEY: *Gentlemen*—Unless there is something further to come before the Society, and unless objection is made, we will stand adjourned.

Adjourned, at 4:30 P. M., *sine die*.

PRESIDENT'S ADDRESS*

BY GEORGE C. WILKINS, M.D.†

TODAY and tomorrow we, the members of the New Hampshire Medical Society, are convened for the One Hundred and Forty-first annual meeting of our society. This society of ours has had an honorable, successful and fruitful career. It has always justified its existence, and the hopes and visions of the small group of earnest physicians who created the society in 1791, have been amply fulfilled. We may review with pride the honorable record of the past in the same way that one may take pride in a family ancestry of genealogical purity and uprightness. We are frequently reminded, however, that we cannot advance or execute successfully the tasks of the present day on the glories or accomplishments of our forebears. Therefore, it behooves us to examine well our present collective personalities, our resources, and our possible opportunities for projecting our influence into the future.

The president of your society during his term of office is privileged to become more intimately cognizant of conditions within the society than the rank and file of its members. It is impossible for him to go about the State, meeting the county members, sitting in with committees, and carrying on some necessary correspondence without evolving certain ideas regarding the present situation of the medical profession of New Hampshire, and some thoughts concerning the immediate future.

OUR SOCIETY

We have 476 members in our society, but this number includes non-residents and inactive members. In proportion to the total number of physicians in the State our percentage is high, 476 out of 543. There are about 458 active members, and of this number about fifty per cent exhibit productive interest in the meetings and affairs of the local, county or State societies. It appears also that it is practically the same fifty per cent who appear with fair regularity at the meetings. The other fifty per cent seldom contact with their fellow practitioners in this way. Without taking undue pride in the general quality of our programs, we may safely say that any member who absents himself is the loser, for no one can attend a medical meeting without learning something. If he were the only one who suffered from his habit of not listening to papers and discussions, it would work very little hardship, but his patients suffer from his lack of appreciation of medical progress, and the collective intelligence level of the entire medical personnel of the State is lowered by each man of this type.

COUNTY SOCIETIES

The correction of this fault of non-attendance at meetings lies chiefly with the county societies, the ten societies which are an integral

*Before the Annual Meeting of the New Hampshire Medical Society at its annual meeting, May 17, 1932.

†Wilkins—President of the New Hampshire Medical Society, 1931-1932. For record and address of author see "This Week's Issue," page 238.

part of the State society and yet act as separate and distinct units. No medical society can be active and effective without an energetic and interested secretary. Presidents and committees come and go and pass into oblivion unless remembered for their mistakes, but a good secretary is a jewel of inestimable value. No more pointed illustration of this fact is needed than to refer to the record of our State secretary who has now started on his second quarter century of service in this capacity.

The officers of the county societies must take more than a perfunctory interest in the physicians of the county. They should provide interesting meetings and make especial efforts toward securing the attendance of the members. This applies particularly to the younger men. Bending the twig cannot begin too early. It is said that some men are too old to change. No one is too old to learn to change, but some are too unchangeable to learn. All county societies should consider the important subject of postgraduate instruction of the type that can be brought directly to their doors. The method by which this instruction can be brought to the county societies has been described to them and it only remains for the county members to make the necessary arrangements. Without continued study and acquisition of new ideas we retrograde. By study we advance. There is no such thing as standing still in the practice of medicine.

Each county society should have at least two meetings a year and a portion of one meeting should be given up to the discussion of medical economics. Physicians must be made conscious of the importance of the county society as a unit in carefully considering the very important subjects of cost of medical care and the medical care of rural inhabitants.

RURAL MEDICAL SERVICE

In the past ten years there have been carried out two fairly extensive and painstaking investigations of the condition of rural medical service in New Hampshire, and while both committee reports noted the gradual decrease in the number of rural physicians, they also suggested that the trend of suburban to urban life was partly responsible and it was believed that motor travel and improved roads would compensate for the absence of local physicians. While many small communities no longer have physicians, they are within fifteen to thirty minutes' motor travel of medical assistance. The most distressing part of this arrangement is the added expense to the patient on account of the longer distance traveled when the physician visits the patient. Equalization of rural service and suitable adjustment of rates should be arranged by the coöperative action of county members. Through the county society should also be made arrangements for payment of a fair fee to all physicians attending persons receiving county or State aid. The doctor has too long been exploited for his invaluable medical services to this class of patients. Physicians should also demand and receive fair recompense for services rendered to clinics conducted by various agencies.

MEDICAL INFORMATION

The public has become quite accustomed to free medical information, chiefly through the newspapers and by radio messages. Most of the information is authentic and worthwhile. Occasionally some radio station or some newspaper gives publicity to medical propaganda without investigating the authenticity of the information or the real purposes or motives in the background. Medical information, which may be commendable, and medical publicity, which may or may not be commendable, are two different things. The time has definitely arrived when the New Hampshire Medical Society should express its willingness to give medical information when requested, to assist newspapers in obtaining authentic medical information, to answer requests for speakers on medical topics, and to coöperate with newspapers and radio stations in suppressing sensational, misleading and unethical medical publicity. We should adopt means and methods that have been found satisfactory in other states, if we attempt to establish a permanent liaison between the medical profession and the public through agencies interested in disseminating news. If such a committee or bureau should be established its aim would be to disseminate authentic information on medical and public health matters, to stem and curtail quackery and to promote a better understanding between the public and organized medicine. The newspapers still maintain their position as the chief source of information to the public, and it is therefore unfortunate that they seem to be less careful in censoring medical information and news on medical subjects, than the broadcasting companies.

Intelligent people seem to be actively interested in authentic medical information and in other states public lectures on common medical topics, sponsored by organized medical bodies, have been popular. In looking into the future should we not consider an activity of this sort as the type of service the New Hampshire Medical Society owes to the public? Nor is it necessary to go outside the State to obtain speakers who are eminently qualified to lecture on subjects of which they can speak with authority. Such lectures must be sponsored by local or county organizations and approved by the State society. The personality of the speaker must always be subordinated to the subject, and he must consider himself temporarily as the mouthpiece of the whole profession.

PERIODIC HEALTH EXAMINATIONS

This medical activity has always had the universal approval of the medical profession, but the profession has been apathetic in its advocacy of this important method of preventive medicine. We, as physicians, should strenuously urge periodic physical examinations, especially in people over forty years of age. Not only may life be prolonged as a result of these examinations, but the discovery and relief of minor ailments will contribute much to the future comfort of the patient. Periodic examinations are especially important on account of the possibility of recognizing early the two conditions which head the list of causes of death, namely, cardiorenal disease and cancer. Spreading the gospel of periodic examinations is the duty both of organized medicine and of the individual physician.

LEGISLATION

Procurement of legislation which will benefit the medical profession is practically impossible. Legislation sponsored by the medical profession is looked upon with grave suspicion by legislators, even when the public is to derive the entire benefit of such legislation. When the medical profession opposes legislation, all the keen minds in the legislature begin at once to search for the figurative colored man in the woodpile. In the legislative halls our ways are beset with trials, tribulations, misrepresentations and disappointments.

I wish to commend in the highest terms the efforts of the hardest working and most painstaking legislative committee it has been my privilege to know, who labored with some considerable measure of success during the last session. One bill which our society sponsored requiring the mandatory mental examination of persons charged with certain crimes was reported unfavorably by the house committee. This bill if it had been passed would have benefited the profession only by reducing the number of trials in which opposing alienists expounded their different opinions, and its adoption by the legislature would assure greater expedition in the administration of justice.

A bill providing for liens of hospitals and physicians in certain cases of personal injury involving insurance settlement was also defeated in committee. The adoption of this bill would have prevented a type of fraud frequently practiced against hospitals and physicians. These two bills and one requiring mandatory revocation of license to practice medicine in any case where the licensee shall have been convicted of homicide as a result of malpractice should be resubmitted to the next legislature.

Every general hospital today has its training school, licensed and approved by the Board of Education, its maternity department licensed by the Board of Public Welfare, its general capacity to serve the public adequately approved or disapproved by the American College of Surgeons. Unfortunately, the public has not been educated to realize how significant is this approval by the American College of Surgeons. Only when the hospital is definitely conducted for the care of some specific disease, can the State Board of Health pass on its worthiness to serve the people. The power to approve and license all hospitals and all institutions caring for the sick should rest in one State body, the State Board of Health. The approval of this board should be given to every institution when the sanitary conditions are satisfactory, when the general professional care of the patients is adequate, and the ethical and moral conduct of the institution is approved. Endorsement of hospital training schools should remain with the Board of Education, but in coöperation with the Board of Health regarding matters of general conduct of the hospital, the character of service rendered by the medical staff, and the ethical management of the institution. Due to the absence of any definite single State supervising agency, it is possible for almost any person to convert a dwelling into a so-called hospital and treat or care for sick persons, so long as it is not conducted for the care of a specific type of cases. If obstetric cases are accepted, the Board of Public Welfare supervises this department only. About one year ago a small hospital of this type, but licensed by the Welfare Board for maternity work, advertised by pamphlets that it would accept cancer patients for treatment. The owner, a physician not affiliated with the State society, announced the introduction of a mysterious, sure cancer cure. It was later learned that he collaborated with a chiropractor in the enterprise, and some one from outside the State came in to administer the treatment. The treatment was a fake, the promoters quacks, and after two or three treated patients died, the advertising ceased. One can imagine the possibilities of a further development along this line in the hands of a more energetic and competent hospital owner. The majority of the public cannot differentiate the relative merits of hospitals and they may easily be subjected to unnecessary operations, needlessly prolonged hospitalization and excessive fees in institutions which may be conducted primarily for profit. In addition to preventing the maintenance of unworthy institutions for the care of the sick, such supervisory function granted to the State health department would automatically create a legal body to whom the public might look for justice and for information.

It is well known that many important associations have found it necessary or expedient to retain a representative in the lobby to watch legislation. I believe our society should have such

representation in the State House during the legislative session. It is the practical way for a group as large and important as ours. This procedure would be somewhat expensive, but efficient.

ADVISORY COMMITTEE ON JURISPRUDENCE

This committee has continued its excellent work during the past year, and should receive whole-hearted support from the physicians of the State. Dissatisfaction on the part of patients can be reduced in three ways: first, by refraining from any remark that may be construed by the patient as criticizing the method of treatment of another physician; secondly, by insisting on adequate x-ray examination of all fractures; and thirdly, by not attempting, except in emergency, treatment with which one is not familiar. Always bear in mind the words of Lincoln, spoken by him in a law lecture before he became president, "Never stir up litigation. A worse man can scarcely be found than one who does this." Remember that an increasing number of suits are shown in rising insurance premiums. The rise in insurance premiums will be further emphasized if some of our members continue in their attitude of unwillingness toward joining the larger group, representing the State society, in coöperation with one insuring body.

PUBLIC HEALTH ACTIVITIES

Time is too short to discuss many phases of this work. Some types will be objected to by physicians and some approved. The Sheppard-Towner act has passed into history and should not be revived. We should be proud of the extent of actual tuberculosis control in New Hampshire. It has been an outstanding achievement in this country. The last legislature created a Cancer Commission, a forward step in advance of most of the States. It is hoped that through the activities of this commission, the dependent cancer cases will be helped, that diagnostic cancer clinics will be established by local societies or local physicians, in various parts of the State, and that existing institutions fully capable of treating cancer patients will be made more efficient. Information regarding cancer and realization of the great importance of seeking advice early must be continually brought to the attention of the public. We members of this society should bear in mind the fact that this responsibility for cancer control lies chiefly with the physician, and we must accept our obligations. It is to be hoped that all cancer activities in the future will be carried out through the active and close coöperation of the State Cancer Commission, the State Medical Society and the American Society for the Control of Cancer. No cancer activities should be supported unless approved by these three bodies. The two latter organizations, through their committees, have already coöperated harmoniously in our State for several years.

Recent action of the State Board of Health in transferring all pathological tissue examinations to the branch laboratory at Hanover is of great importance and marks a progressive step. All tissue will be promptly examined by two full-time pathologists. Few states provide this service free for charity cases, and credit for the development and establishment of the pathological service in New Hampshire should be given to our first State pathologist, Dr. Charles Duncan.

Although the value of convalescent serum in the treatment of infantile paralysis is not definitely settled, the State Board of Health at Concord will prepare treatment serum for any group that will obtain blood from convalescents and forward it to the laboratory. This is the only practical method that can be devised, for the serum retains its curative properties for a few weeks only. Any community, town or city health department, or any hospital may thus be assured of a supply of serum, if they will furnish the blood from convalescent cases.

NEW ENGLAND MEDICAL COUNCIL

The importance and significance of the results of coöperation among the six New England medical societies cannot be estimated by a mere perusal of the minutes of the meetings. The meetings have offered an opportunity for discussions on many subjects of vital importance, by men from widely separated sections of New England. Progressive and constructive legislation has frequently been adopted by the various State societies as a result of policies and ideas developed in the deliberations of the New England Medical Council. I am sure our enthusiastic support of the New England Medical Council will continue.

BENEVOLENCE FUND

An amendment to the By-Laws of the society has been offered in the House of Delegates, that will establish a Benevolence Fund, the income of which may be used to give financial aid to sick, disabled or aged members, and widows or children of deceased members. We are a fairly prosperous group and should be in a position to aid any unfortunate members, who become dependent through no fault of their own. It is to be hoped that this measure will receive your support and approbation.

SOCIETY EXPENSES AND DUES

The financial condition of the society is good, but in order to keep pace with the increasing duties devolving upon the society and its officers, it was found necessary to increase the dues. Even at this present figure one finds that only

twelve states have dues as low as ours. If, and when, the financial depression lifts, we must look forward to a further increase in dues if we wish to carry on effectively. Added expenses have come on account of our participation in the deliberations of the New England Medical Council, the development of the work of the Committee on Jurisprudence, and the distribution of one monthly copy of the *New England Journal of Medicine*. We should gradually increase the salary of the secretary as his duties increase and he should at once receive an increased amount of clerical help. An increase in the activities of our society and its subjective committees automatically increases incidental expenses. If our desire is to keep abreast of contemporary societies, we will need to expend more money, and collect higher dues.

. . . . . .

I have endeavored to hold before you a mirror in which you might glimpse brief flashes of activities with which you as members of the New Hampshire Medical Society are concerned. As individuals, you have chosen for your life-work one that demands a constant amount of preparation for future improvement. So it must be with our State organization, we must step forward with the times. We must visualize, so far as it is possible for us to do so, what future demands may be made on our society by its members and by the public. Let us always be ready and prepared to cope with the ever-changing times. In the interim between the annual meetings your officers, the county units and the committees, continue their activities and are the pacemakers for the whole society. If your county societies will accept their responsibilities as units of the State organization, and in addition will continue to elect men of foresight and wisdom to represent them in the House of Delegates, our society will continue to be the leader and the friend of the physicians of New Hampshire.

MISCELLANY

NEWS ITEM

Surgeon J. W. Mountin has been directed to proceed from Washington, D. C., to New York, N. Y., Concord, N. H., and to such other places in that State as may be necessary, and return, in connection with studies of public health administration.

RECENT DEATH

PROUTY—Dr. Ira J. Prouty of Keene, N. H., died in that city July 31, 1932, aged 74, after a long illness. He graduated from the New York University Medical College in 1882 and practiced in Keene, N. H., with marked success for many years.

A RADIO MESSAGE PREPARED AND SPONSORED BY THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE DEPARTMENT OF PUBLIC HEALTH

Physical Culture in School Children*

BY JAMES WARREN SEVER, M.D.

Physical culture is a term used to designate the various physical methods used for the bodily development, in this instance of school children. It does not imply the use of any one method, but covers general exercises for classes and individuals —best designed to restore muscular and physical activity during or after school hours. It is reëducation in the use of muscles which are being inadequately used or not used at all.

The whole basis for the need of physical culture or better physical education is the need for the growth and development of the growing child and along proper lines.

School fatigue is a well-known condition, due to mental exertion and consequently mental and physical fatigue. These conditions result in muscular and bodily relaxation and consequently poor attitudes or posture.

There are over 11,000,000 children in rural schools of America today. Of this number 4,750,000 attend one room, one teacher schools, of which there are 165,417. The vast majority of these teachers have practically no knowledge or training in physical education, health education, or recreation. Very few of these schools have adequate play space, or leadership, to organize the play life of these children. Seventy-five per cent of the children leave school before the sixth grade. This means that any program of education in health, physical education or recreation, must reach the child before the sixth grade, and a large per cent in the one room and village schools.

It is, therefore, important that physical education be started early in the schools.

Apart from the mental fatigue of school children, muscular fatigue must be combated. Muscular fatigue results in poor posture, in standing, walking or sitting, and leads to generally impaired bodily and mental efficiency.

School life is to a certain extent an artificial one for the growing child, whose normal growth depends considerably on its muscular activity. The child entering ordinary schools undergoes a physical as well as psychical depression. Schoolroom discipline naturally tends to check this muscular activity, which in turn tends to develop muscular fatigue, resulting in or causing bad postures, nervous tension, strain and exhaustion.

In fact, the school life of a child has a very real and important influence in direct relation to its physical development. School deformities are usually due to, or if present, increased by prolonged sitting in faulty positions, combined with too little muscular activity. Anything which reduces the

(Concluded on page 230)

*Broadcast: May 3, 1932. Time: 4:20 P.M. Station: WBZ—Hotel Bradford.

VERMONT STATE MEDICAL SOCIETY

VERMONT DEPARTMENT OF PUBLIC HEALTH
JUNE, 1932

The month of June has seen the completion of the recording of vital statistics for the year 1931, and some interesting information comes to light in the study of these figures. For example, the number of marriages in the state (2,557) is the lowest actual number since the year 1864, that is, during the Civil War. The highest number of marriages recorded in the state was during the year 1916, just previous to the World War, when there were 5,279. The birth-rate for 1931 is 18.8 per thousand population, and this is the first time the birth-rate has been below 19 since 1887. The death-rate is 12.9 which is the lowest death-rate recorded in the state since 1867, at which time it is quite probable that registration was not sufficiently accurate to make comparisons. The infant death-rate is 61.9, which is figured on the number of deaths under one year of age per thousand living births. This is the lowest infant death-rate ever recorded in the state. Other low rates are typhoid fever, 1.6 per 100,000 population; diphtheria, 1.1 per 100,000 population, and scarlet fever 1.3. The rates for diphtheria and scarlet fever are lower than ever before recorded, and that for tuberculosis of the lungs is 59.5 per 100,000 population, which is a remarkable figure when compared with twenty-five years ago, at which time the rate was 108.8. Even deaths from cancer show a decrease during the last two years, being 457 with a rate of 127.0 for 1930 and 444 with a rate of 123.4 for 1931.

There were 120 health officers whose terms expired June 30. Notice was sent to the selectmen of each town, and by recommendation of the selectmen ten changes were made. Of this number (120) appointed, sixty were doctors and sixty laymen. In two cases, laymen replace doctors. In three cases, doctors replace other doctors and in four cases, laymen replace laymen.

Communicable diseases have been reported as follows: Chicken pox 71, diphtheria 7, measles 1,159, mumps 335, scarlet fever 48, smallpox 21, tuberculosis 18 and whooping cough 86.

The Laboratory of Hygiene made a total of 1,484 examinations during the month, classified in the following manner:

Examination

For diphtheria bacilli	108
For Widal Reaction of typhoid fever	27
For malarial parasites	1
For tubercle bacilli	232
For evidence of syphilis	370
For gonococci in pus	107
Of water, chemical and bacteriological	132
Of water, bacteriological	194
Of milk, market	210
Of milk, submitted for chemical only	3
Of milk, submitted for microscopical only	0
Of foods	5
For the courts, autopsies	5
For the courts, miscellaneous	22
Of animal heads for evidence of rabies	1
Miscellaneous	67

Forty-five new cases of gonorrhea and thirty-three new cases of syphilis have been reported to the Division of Communicable Diseases. Three hundred and eighty-eight Wassermann outfits and 201 gonorrheal slides have been distributed.

One hundred and twenty-one patients have been seen by the nurses of the Division of Poliomyelitis After-Care, and one hundred and thirty-seven home visits were made. Five doctors were called on, one plaster cast removed, one patient admitted to the Audubon Hospital and three patients discharged from the same hospital. Eleven new pieces of apparatus were fitted, fifteen pieces of apparatus altered or repaired and forty-seven orthopedic corrections made to shoes. The vocational worker reports sales amounting to $27.50 for the month.

Clinics were held by the nurse of the Maternity and Infancy Division in five towns with an attendance of 318 children. Six hundred and sixty-eight notifications of birth registrations and 773 pieces of literature have been sent out from this Division.

ADDISON COUNTY MEDICAL SOCIETY

A meeting of the Addison County Medical Society was held at the Porter Hospital, July 7. A memorial to Dr. P. L. Dorey was read by the president. Dr. S. S. Eddy, Jr., was voted into membership. The following officers were elected: President, B. F. Andrews; Vice-President, E. S. Lane; Secretary-Treasurer, Estelle Foote; Delegate to State Convention, to fill Dr. Dorey's unexpired term, H. L. Williamson; Delegate for one year, G. F. Edmunds.

RECENT DEATHS

HORNER—DR. JOHN S. HORNER of West Pawlet, Vt., was born in Thornton, New Hampshire, on September 20, 1867. He was graduated from the Holderness School (Episcopal) in Plymouth, New Hampshire, and later from the Bryant and Stratton Business College of Boston. On April 23, 1890, he was registered as a skilled pharmacist in the State of New Hampshire. In 1892 he was graduated from the University of Vermont College of Medicine. Immediately after graduation, he settled in the town of West Pawlet, Vermont, where he practiced medicine and surgery for a period of forty years.

Dr. Horner was an active member of the American Medical Association, and was Health Officer of the town of Pawlet. He was a member of Morning Flower Lodge, F. and A. M., of Pawlet; of Evening

Flower Chapter, O. E. S.; of Friendship Lodge, I. O. O. F.; and of the Modern Woodmen of America.

Dr. Horner died on June 19, 1932, of septicemia complicated by chronic nephritis, at the age of sixty-four.

WELLS—Dr. Robert M. Wells of Orleans died suddenly July 11, 1932. Dr. Wells was born in Ascot, P. Q., January 24, 1878, the son of Foster and Clara Wells. His father having died, he and his mother moved to West Glover, Vermont, where he attended the public schools of that town and graduated from Barton Academy in 1896. After one year of teaching he entered Howard University in Washington, D. C., and studied for one year, then completed his medical course at the University of Vermont and graduated in 1902. He located in Brownington and there developed a successful practice and later moved to Orleans, where he practiced until the time of his death. On July 30, 1902, he married Miss Lena Perkins of Barton. She, together with an adopted daughter, survives him.

A RADIO MESSAGE

(Continued from page 228)

general vigor and health of the child will consequently decrease its resistance to abnormal and long-continued strain.

These conditions may be due to too much study and too much indoor life after school hours. Carrying many books home for study has been suggested as a cause for lateral curvature tendencies, in that in New York the grammar school children habitually carry five pounds of books to and from school. This weight carried daily in one hand, or over one shoulder, exerts a distinct tendency to deformation. The schools are probably less to blame for the occurrence of lateral curvature than is generally believed; even with the complete development of school hygiene, lateral curvature will not altogether disappear in school children, for the tendencies are probably planted before the school life begins. It has been shown that twenty-five per cent of the school children in Germany, for example, hold themselves crooked.

In the absence of direct pathologic causes, it is believed that the chief factor in the production of faulty postures is fatigue of the back muscles, resulting in the assumption of a position which, taken originally to relieve strain, becomes habitual, and finally, owing to structural changes, permanent. Such fatigue usually results from prolonged standing and sitting rather than from active exercises. The fact that in all cases subjected to these same conditions of strain, curvatures do not develop, shows that individual predisposition also plays a part. Other conditions may cause bad postures; for example, unequal hearing, which causes tilting of the head habitually to one side, as will also poor or unequal vision.

WRITING POSITIONS

In writing, the position should be a good one, i.e., with the back straight and the shoulders even, with the child directly facing the desk. He should sit squarely in the seat, with the whole forearm resting on the desk, the elbow near the lower right-hand corner.

PHYSICAL EDUCATION AND HYGIENE

School children should not be required to remain sitting for long periods, and while sitting the back should be supported in such a way as to relieve the muscles from undue strain and stretching forces. It is, therefore, obvious that the first aim of any adequate treatment is to secure rest of the muscles. This may be done by frequent exercise periods of short duration, and by proper seating, as obtained by the correct relation of the desk and chair to the individual, combined with adequate support to the back in a normal sitting position. An exercise period of three to five minutes at the end of each hour, or even at the end of every two hours, may be enough to counteract the deleterious effects of the school desk and chair and of too long rest in a bad posture. Improper attitudes invariably result from fatigue, and that fatigue must always follow any attitude which is maintained without change for any length of time, is obvious.

School departments in all the various cities of this country are alive to the necessity of the establishment of departments of physical education and school hygiene, combined properly with the development of athletics in the schools. Many such departments are now established under the charge of a competent instructor for both girls and boys, who often does more than merely conduct routine setting-up drills, being also on the lookout for postural or structural deformities of the spine. This instructor should be versed sufficiently in corrective work to undertake the care herself, or to know enough to send the case to someone who can handle it.

Now, what exercises and activities are best for school children? First of all, games, for example, baseball, basketball, running and jumping games that can be carried out in the schoolyard, or in the basement. The general muscular activity thus induced is excellent for the growing child. Secondly, formally directed exercises, singly or in classes, done in or out-of-doors, also the so-called setting-up exercises, deep breathing, arm, chest and leg exercises, all done with an eye to correct standing position. Any active exercise which changes the child's position and induces muscular activity is good for it.

Special corrective work for faulty posture or lateral curvature of the spine should not be undertaken in the schools, but the best results can be obtained by a specially trained instructor, giving individual exercises. School teachers have only a vague idea of what good posture is, or how to obtain it, and they should not be entrusted with this work.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 18311*

SWELLING IN THE NECK IN A WOMAN OF FIFTY-EIGHT

MEDICAL DEPARTMENT

PRESENTATION OF CASE

DR. ALFRED O. LUDWIG**: This is the case of a fifty-eight year old American-born housewife.

The history was that she had passed the menopause fifteen years before entry into the hospital. At that time she began to notice a swelling of the lower neck, slowly increasing in size. There were no pressure symptoms. For three years she had had slight weakness and shortness of breath and for a year slight palpitation. A few months before she came to the hospital she noticed definite puffiness under the eyes and later of the ankles. A month before entry her legs became swollen during the day and the dyspnea, palpitation and weakness increased. There was no desire for a cool environment. There was no increased sweating. Her appetite was decreasing. She noticed nocturia once at night at the time.

Fifteen years before she had had an abscess of the breast, since then recurrent draining sinuses over this area.

She had been married twenty-five years. There had been no pregnancies.

Physical examination showed a very obese, moderately orthopneic woman. The upper teeth were false. The lower remaining ones were in very poor condition. The thyroid was markedly enlarged, very hard, irregular and nodular. No abnormal lymph glands were felt anywhere. The fundi showed marked sclerosis of the vessels with tortuosity, nicking, and exudate, particularly around the maculae. There were numerous small fistulae below the left breast, with a thin yellow-white exudate. The left breast showed an irregular lump in its mesial half. There was no tenderness or acute inflammation. The heart was enlarged to the left. There were numerous extrasystoles. There were apical and pulmonic systolic murmurs. There was no thrill. The blood pressure was 200/80. The lungs were negative. The abdomen was normal except for a very obese wall, making examination somewhat unsatisfactory. There were numerous small varicosities below on the abdominal wall and also on the lateral aspects of the thighs. There was massive edema of the legs below the knees. 2 centimeters of pitting. The knee jerks and ankle jerks were normal.

DR. J. H. MEANS: What about the eye signs, tremor, bruit, thrill, etc.?

DR. LUDWIG: There were none present except that she did have somewhat of a stare.

On entry the urine was negative. There was good gravity. We had thought she had nephritis in view of the hypertension and the eyegrounds. At that time it turned out not to be so. Blood examination showed the hemoglobin 60 per cent, a red count varying from 3,800,000 to 4,400,000. The stools were negative. A Wassermann was negative. The non-protein nitrogen was 35. A culture from the sinuses showed staphylococcus albus on one occasion, staphylococcus aureus on another occasion. A renal function test was 55 per cent in an hour and a half. The basal metabolic rate on five occasions was plus 57, plus 43, plus 49, plus 51 and plus 42. There was some question as to the absolute accuracy of these readings on account of the dyspnea of the patient.

She was seen in the hospital by Dr. Lerman, who thought it was an exophthalmic goiter of moderate severity. He found definite exophthalmos and stare. "The gland is nodular and firm to hard. There is a superficial friction rub in the pulmonic area, frequently heard in hyperthyroidism. She has improved a good deal on digitalis and rest. Is ready to be iodinized. A moderately severe thyrocardiac with congestive failure. The damage to the heart probably has an underlying hypertensive and arteriosclerotic basis."

Up to that time, which was nine days after she entered, she had lost 15 pounds—probably all edema—on digitalis and rest. About that time, ten days after entry, she developed cough and some rise in temperature. She continued to run a very low grade fever during her course in the hospital, 99°, 100.5°, on one occasion 101.5°. Just before death it went up to 103°. The pulse was continually rapid, about 100. The cough gradually increased in the next six days. On the night before exitus she suddenly became cyanotic and developed increasing dyspnea and orthopnea. There were coarse sibilant râles in the chest front and back. Shortly after that she died.

DR. TRACY B. MALLORY: How long was she on iodine?

DR. LUDWIG: Six days. She had not had any iodine outside of the hospital so far as we knew.

DR. AUBREY O. HAMPTON: Here is a film of the neck to show the soft tissue tumor and the

*This report gives the essentials of two discussions, one at a conference of the hospital staff, one at a session of Dr. Cabot's Third Year class.

**Recently senior interne on the East Medical service.

trachea. The trachea is markedly displaced toward the right and flattened.

DR. MAURICE FREMONT-SMITH: Why is it so far to the right low down? Is it a substernal goiter?

DR. HAMPTON: It looks so to me certainly. It is quite low, down to the arch of the aorta. We are not nearly so confident about our diagnoses of substernal goiter from this type of examination as we used to be. In order to be absolutely certain I think we must have a lateral view of the trachea at the suprasternal notch. We tried to get that here, and because of the patient's obesity and condition we failed. In the lateral view it is quite easy to see displacement and flattening of the trachea if the tumor extends below the sternum. In the anteroposterior view there is always a certain amount of dullness in this area that can be accounted for by the sternomastoid, by fat pads, retraction of the apices or by slight kyphosis. Then too this term "substernal goiter" is one we have used so long for a tumor rising out of the chest when the patient swallows that everyone assumes the usual fluoroscopic examination to be sufficient. This observation is not quite so easy as it sounds with fluoroscopy, particularly with a very fat patient. We are never quite certain unless we have a lateral view. I will say that this tumor goes down to the suprasternal notch certainly; whether it goes below the sternum I am not sure.

The lungs show diffuse mottled haziness and increase in the width and density of the lung markings or blood vessels. The lung roots are quite heavy, especially on the right side. The left diaphragm is not seen at all, probably because of a small amount of fluid and because of the heart and breast, the breast being very large and the heart extending over to the midaxillary line.

DR. FREMONT-SMITH: Is there no calcification in that left breast from which the sinus comes?

DR. HAMPTON: I do not see any. In most patients with toxic goiter we have this prominence of the lung roots and of the blood vessels of the lungs. I suppose it is due to pulmonary stasis, but it may be exaggerated by rapid pulsation. Also we almost invariably have a dilated pulmonary artery by x-ray. We have interpreted it many times as enlargement of the heart due to mitral disease. Here the enlargement is almost wholly downward and to the left, and we can probably assume that it is the left ventricle. The aorta does not appear dilated. It is tortuous.

DR. FREMONT-SMITH: By rapid pulsation you mean that the vessels would be dilated during the period when the picture was being taken?

DR. HAMPTON: Yes, that we probably get a double exposure of the blood vessels.

CLINICAL DISCUSSION

In Third Year Class

DR. FREMONT-SMITH: If we put that story together in the simplest way it suggests two lesions, one a gland under the breast, perhaps tuberculous, which has discharged and left sinuses; the other an enlargement of the thyroid —if it be the thyroid,—possibly a non-toxic goiter which first gave her pressure symptoms. Why the cardiac symptoms? There seem to be certain adenomas of the thyroid with apparently very little activity, in that the metabolism does not increase much above normal, and yet which poison the heart, and the removal of which results in far better compensation than has been present while they were in existence. I am hesitant to be categorical about these because it is difficult to say what the thyroid gland can do other than secrete thyroxin. If it does this to excess we ought to get an increased metabolic rate, and we often do get an increased metabolic rate in these adenomas. Apparently however her symptoms are more consistent with a low than with a high metabolic rate, and still she has apparently suffered cardiac damage. Of course that cardiac damage may have been entirely independent of the mass in the neck, and we do not even know yet that the mass we are talking about is the thyroid.

Supposing she had no thyroid, I think we must explain the situation on the basis of arteriosclerosis, which could account for both the heart and the retinal picture. We could explain the decompensation and the edema on the basis of cardiosclerosis. We have in addition to that perhaps a thyroid factor, a factor which possibly could be removed.

Is it not interesting that with the great gain in weight, with the slowness of mind that would go with a myxedema rather than with an increase in metabolic rate, the basal metabolic rate at admission was plus 57?

At Staff Conference

DR. JACOB LERMAN: This patient falls into the category of thyrocardiacs. Undoubtedly some underlying cardiac pathology accounts for the symptoms. The fact that she had a nodular goiter suggests that the disease was of long duration. In a person of this age with hypertension and arteriosclerosis, long-standing toxicity eventually leads to cardiac failure.

The question came up whether operation in her case was desirable or not. There was some disagreement between the Thyroid Clinic and the Medical service on this point. I think the reason was that two weeks previously a similar thyrocardiac patient was allowed to go to operation and died. The result in this case was the same without operation. As a rule if we do not operate, these patients are likely to die. On the

other hand, if they are operated on and survive the operation, they improve most remarkably. In fact they recover completely for a long time.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Toxic adenoma of the thyroid.
Hypertensive and thyroid heart disease.
Bronchopneumonia.

ANATOMIC DIAGNOSES

Hyperplasia of the thyroid, slight.
Marked diffuse involution and focal hyperinvolution of the thyroid (nodular goiter).
Tracheal constriction, slight.
Pulmonary infarction, right lower lobe.
Pulmonary emphysema, slight.
Arteriosclerosis, slight; aortic, coronary, renal.
Multiple sinus tracts of the chest.
Hemangiomata of the small intestine and esophagus.
Fat necrosis of the pancreas.
Central necrosis of the liver, acute.
Tuberculous (?) salpingitis, right.
Adenoma of the left fallopian tube.
Tuberculosis of one adrenal.

Pathologic Discussion

Dr. Mallory: This case interested us as an example of unsatisfactory correlation between the histologic findings in the gland and the clinical evidence of hyperthyroidism.

In this case we could find very little hyperplasia in the thyroid. There was some disagreement among the members of my staff as to whether there was any hyperplasia or not; there certainly was extremely little.

We have a very large number of sections from all four poles of the thyroid gland and they are all essentially the same. The majority of the acini are quite big and are filled with colloid. There are a great many areas of involution with very minute acini and with escape of the colloid into the stroma. Those areas could not possibly be suspected of any degree of toxicity. In a few areas a very slight degree of papillary hyperplasia is suggested. That degree is not at all uncommon in normal thyroids. There are a good many definite nodules which look like typical involutional bodies. There are foci of old hemorrhage. There is a little lymphocytic infiltration, but not much.

The rest of the autopsy showed a hypertrophied heart, a moderate amount of arteriosclerosis, a very mild degree of vascular nephritis, some evidences of chronic infection showing in the form of small septic infarcts in the lungs and in a rather acute central necrosis of the liver as well as rather marked fatty vacuolization. The pancreas shows an immense amount of fat infiltration which would go with her obesity, not a particularly common thing in a thyroid case. We have also very typical little areas of fat necrosis dotted all through the pancreatic tissue and a few in the omentum. There seems to have been some form of pancreatitis in the past.

She had a very peculiar adenoma of the salpinx; I have never seen any tumor of the same sort before. The lesions in the breast show only chronic inflammation without positive evidence of tuberculosis, though there was tuberculosis of one adrenal.

This is a very complicated case. Most of these findings seem to be purely incidental. I cannot connect the pancreatic condition or the adenoma of the tube with her significant symptoms. We come down to the question, was the heart disease hypertensive or was there a thyroid element in it? I do not believe we can settle that question, although from the purely morphological point of view I should never have suspected a thyroid element in this case. The findings do not seem to check at all with the high metabolic rate, which was about 50.

Dr. Means: I think this is an extraordinarily interesting case. I did not see the patient in the hospital because I was away at the time.

There is such a thing as chronic exophthalmic goiter. Once in a while we see a patient, usually past middle age, in whom the disease has smoldered along for many years. I think it is possible that this case represents something of that sort. We have a history of goiter going back fifteen years, and apparently we have toxic symptoms going back three years. Dr. Mallory finds involution bodies in the gland. I wonder whether this does not represent a smoldering type of thyrotoxicosis with a little hyperplasia going along for years and whether perhaps the chronicity explains the failure to find more generalized hyperplasia. It is interesting that the original clinical diagnosis was adenomatous goiter with hyperfunction. Nothing that could truly be called adenoma was found at autopsy. I think that perhaps emphasizes the point that Dr. Mallory has really taught us, that many of these nodules we feel and have been calling adenomata are not that. This was first suggested I think by Rienhoff*. From the description the gland in the present case, irregular, hard and nodular, without thrill or bruit, is certainly not characteristic of exophthalmic goiter. Yet I agree with Dr. Lerman that this may be a form of exophthalmic goiter so-called.

Another point that the case makes clear is that the heart does not become incompetent in thyrotoxicosis unless it is also suffering from some other burden. I do not know that this is absolutely proved, but the weight of evidence and opinion is certainly on the side that the heart stands thyrotoxicosis pretty success-

*William F. Rienhoff, Jr. A new conception of some morbid changes occurring in diseases of the thyroid gland. *Medicine* 10:257, Sept. 1931.

fully, that the so-called thyrocardiac patient has thyrotoxicosis plus some other cardiovascular lesion and that the added burden of the thyrotoxicosis is the last straw which breaks the camel's back and brings about decompensation, but that it is not thyrotoxicosis alone which is responsible. Experimental work supports this view.

Whether or not to operate is important. I do not see how we can settle in this case whether or not operation would have killed the patient. She died unoperated. It is a pity she did not live long enough for iodine to exert its full effect. She was on it only six days before death. Iodine should exert some action before six days, but not full action. It is conceivable that if she had lived to have iodine over a longer period she might have got into a condition in which she could survive operation. Apparently the course followed was that she was digitalized first and iodinized afterwards. That course perhaps is more informative, because it is impossible to distinguish between the purely cardiac element and the thyrotoxic element if the two things are given at once.

DR. ALLEN G. BRAILEY: We have here no evidence that iodine did her any good.

DR. MEANS: No; but it had not been given long enough to say it might not have a little later.

DR. MALLORY: Have we done any blood pressures on thyroid patients during operation and during storms? Dr. Burton Hamilton has told me of cases in which the blood pressure during thyroidectomy passed 300.

DR. MEANS: Yes. It is always followed during operation. In fact a blood pressure that gets up above 200 is one of the things that make the surgeon call off the operation. I am sure we have data concerning blood pressures during thyroid storms, but I cannot tell you what they are.

DR. MALLORY: A blood pressure over 300 is a terrific strain on a heart already decompensated.

DR. MEANS: Do not our surgeons think 200 is sufficient indication to stop operation?

DR. RICHARD H. MILLER: Yes. We did however have a thyroid case a few months ago, a woman with a blood pressure of 300 who was operated on under local anesthesia and avertin. Strangely enough the blood pressure came down following operation to about 200, but it went up again.

DR. MALLORY: Dr. Spence, I wonder if you have any feeling as to the degree of success with which morphology can be used as a criterion of hyperthyroidism.

DR. ALLAN W. SPENCE: I do not think that from a section we can say definitely whether a person has or has not hyperthyroidism. Suppose we say that there is a colloid gland; except possibly for the absence of lymphoid aggregates, I do not think that we could say that that person is not suffering from hyperthyroidism.

DR. MALLORY: I have a distinct feeling that Rienhoff is correct in his descriptions of partially involuted glands. With regularity outside the colloid areas he finds definite foci of hyperplasia. Certainly in four out of five cases where we have had a chance to make a complete examination of the gland, foci of hyperplasia outside the colloid nodules can be found in the toxic cases. We feel therefore reasonably confident of picking up persistent areas of hyperplasia in any case with much increase in the metabolic rate.

DR. SPENCE: On the other hand, a simple goiter may be hyperplastic with no areas of colloid at all. One could not say that person suffered from Graves' disease.

DR. MALLORY: I admit at once that hyperplasia does not always mean toxicity, but I am still attempting to maintain that toxicity does not occur without hyperplasia.

DR. SPENCE: Is it not true that in Graves' disease we may have a gland which is entirely colloid, with no areas of hyperplasia at all? It would be impossible to say from such a section that that patient was suffering from Graves' disease.

DR. MALLORY: Previous administration of iodine of course makes the pathologist's task more difficult, since more or less involution always occurs.

I have one slide here which I should like to show in that connection. I think it is from the only case on which we have a fairly accurate time interval. This was a severe exophthalmic goiter which was operated on in two stages, a thing we do not often do nowadays. This is the specimen removed at the first operation, ten weeks after the onset of symptoms. She had then been on iodine for six weeks. You can see that we have a very severe, very marked hyperplasia here. We also have in some areas beginning involution with a little of the colloid, but the greater part of it is still markedly hyperplastic. The second operation was done seven weeks later. Iodine had been continued in the interval, and now we have marked involution and the great majority of the acini are well filled with colloid. There still are, however, these characteristic small persistent foci of unquestionable hyperplasia. So that I feel that just from this slide we could pretty confidently make a diagnosis of hyperthyroidism. Rienhoff has shown the same changes in spontaneous remissions without iodine, but we have no material of our own that is conclusive.

DR. MEANS: What was the basal metabolism before the second operation?

DR. JOHN I. BRADLEY: The basal metabolic rate was 40 when she came back for the second operation. It dropped to 30 before operation.

It was 45 when she first came in and it dropped somewhat, I do not know how much, before the hemithyroidectomy.

DR. MALLORY: The point that has rather impressed itself on me in the course of the year is that cases in which we have the most difficulty in checking the appearance of the thyroid with the clinical symptoms, particularly the basal metabolic rate, are all in the cardiac group. I wonder if cardiac disease may not alter the basal metabolic rate to a greater degree than is realized.

DR. MEANS: Of course if a person has marked orthopnea that alone may cause a rise of metabolic rate. I suppose that the extra work imposed by the labored breathing is responsible. That may be a factor here. I doubt if it is the whole story.

Did you mention the thymus?

DR. MALLORY: There was no thymus.

DR. MEANS: That is evidence against hyperthyroidism, is it not?

DR. MALLORY: Yes, though not conclusive.

DR. MEANS: Was there no lymphoid hyperplasia elsewhere?

DR. MALLORY: No.

It will take considerable more study before we can settle anything in regard to this group of cases.

From Discussion in Third Year Class

DR. FREMONT-SMITH: Is it not true that when we give thyroid extract or thyrotoxin to human beings or animals we get a rise in metabolic rate but cannot reproduce the whole picture of Graves' disease? I think it is accepted that that means that the primary disease—if it is a disease—certainly the malfunction, is of the sympathetic nervous system and that many of the symptoms of Graves' disease may be associated with sympathetic dysfunction and not merely with an increased metabolic rate, in other words not with overfunction of the thyroid *per se*.

In contrast, a man whom Dr. Means saw with me the other day had a consistent metabolic rate of minus 48 and signs of hyperthyroidism, if you will, that is, he was thin, nervous, had a big appetite, had a little tremor of the hands and moist skin. There were none of the signs of myxedema. Dr. Means said he did not believe the rate of minus 48 had any relation to thyroid failure. Interestingly enough this patient had a metabolic rate of minus 38 a year and a half ago, and on thyroid, which raised the metabolic rate above normal, he did not improve. The symptoms, which were vague to be sure, consisting of indigestion, backache, a feeling of malaise and depression—the symptoms were unchanged although the metabolic rate came up to above normal. Such cases have led many clinicians to the conception that Grave's disease or hyperplasia of the thyroid with increased metabolism is not a primary condition, but that the thyroid takes part in a general dysfunction probably primary in the sympathetic nervous system.

CASE 18312

NON-TOXIC GOITER WITH MICROSCOPIC HYPERPLASIA

SURGICAL DEPARTMENT

PRESENTATION OF CASE

DR. DAVID W. WALLWORK*: This is the case of a seventeen year old Canadian schoolgirl who entered complaining of a tumor of the neck.

She and her mother said that the tumor had been present since birth but had given no symptoms until with each menstrual period the tumor increased in size to such an extent that it gave signs of pressure on the trachea. The history was otherwise negative. There were no symptoms suggesting toxicity. The only significant point was that she had taken tablets prescribed for her sister after the sister had had thyroidectomy done for a similar tumor of the neck. The patient said these made her definitely more nervous. In this state she was brought to the Outpatient Department.

The family history is interesting because of the sister's goiter and because an uncle also had a similar tumor which he was unwilling to have removed.

Physical examination was negative except that the thyroid was five times its normal size on each side, soft, almost simulating a fluctuant mass. There was pronounced bruit and thrill on each side. The tumor moved freely on swallowing. There were no physical signs indicating toxicity. There was definite coarse tremor of the hands. The preoperative basal metabolic rate was normal. The exact figure is not on record. Throat examination and x-ray were negative except that the radiologist said the tumor definitely did go down below the suprasternal notch.

Dr. Young did an almost complete thyroidectomy. Only a small amount of gland was left over the trachea because the entire gland was definitely involved in colloid disease.

The wound drained profusely, but the patient had an excellent convalescence otherwise and was sent home on the seventh day after operation. The basal metabolic rate when she left the hospital was minus 8. She was discharged ten days after admission.

She was seen a month later, at which time the basal metabolic rate was minus 25. She was without symptoms and was very much relieved.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Chronic colloid goiter.

*Senior interne on the East Surgical service.

Pathologic Discussion

Dr. Tracy B. Mallory: I am reversing the order here and will show you the slides first. There was a very large goiter, and as you can see from the slide here, we have marked alternation of the involutional nodules immensely distended with colloid and there are foci of very marked hyperplasia, quite as marked as one would get in a great many exophthalmic cases. There are marked papillary processes in some areas, almost enough to suggest beginning tumor formation.

Here we have the other type of thyroid from the first case, Case 18311. Here we have marked hyperplasia of the gland and no obvious evidence of toxicity.

Dr. J. H. Means: We are told she had a bruit and a thrill. That is interesting. One may find bruit and thrill in simple colloid goiter, but it is not the rule. We are told also that she had tremor. That is of less importance. Many people have tremor whose metabolic rates are little if at all above normal. I wonder whether with this histologic picture she did not perhaps have an element of thyrotoxicosis as well as a long-standing colloid goiter.

Dr. Mallory: I am tempted to believe it, but I feel distinctly uncertain about it.

Dr. Jacob Lerman: This patient had been followed in the Metabolism Laboratory for some time. When Dr. Thompson first saw her four years before this entry he described a soft gland with bruit, a simple colloid goiter. We have seen simple colloid goiter with bruit in several cases. It is not an unusual finding. Then she began to show nodular changes in the gland. We operated on her not only because of the appearance of the neck but also because she was developing these nodules. The presence of hyperplasia in this case is a surprise, because at no time did anyone find definite toxic symptoms. The basal metabolic rate ran low, being minus 13 on one occasion. One would never have suspected hyperthyroidism in her. On the other hand the rate dropped down to minus 25 following operation. This suggests that there may have been some hyperfunction not manifested in terms of ordinary symptoms. The changes after puberty which a girl of her age undergoes would tend to lower the basal metabolic rate.

Dr. Mallory: How much can one argue from that drop in the metabolic rate of 25 points? Do you expect to get as much of a drop as that following removal of a simple goiter?

Dr. Means: No.

You have shown it to us both ways this morning—hyperplasia without any very convincing thyrotoxicosis and thyrotoxicosis without any hyperplasia.

Dr. Mallory: Yes. I have selected these cases as the exceptions. The vast majority of cases follow the rule very well indeed.

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WHAT IS SCIENTIFIC MEDICINE?

ONE frequently finds the expression "scientific medicine" but rarely does one come across a clear exposition of what the term means. Of each cult there is a definition, clear enough as far as words go, though it is not always so clear that the practice of the cult falls within the limits set by the definition, and there is added a dogma or doctrine or theory of disease and its treatment which is comprehensive in scope and adequate in efficiency (for the sectarian).

Contrasted with this is scientific medicine. It has no single theory of disease; its doctrines are numerous and change from time to time. If any doctrine becomes dogma it is suspect at once and is on its way to rejection from the field of science. If one can get a comprehensive view of scientific medicine it may seem to contain a mass of heterogeneous knowledge, with contradictions and inconsistencies, with large areas of ignorance, vast fields of unknown and unexplored country. It is much like matter to the physicist. Ordinary matter of which one builds steel and concrete structures seems quite dense to the physiological eye of the physicist. To his electronic eye the ultimate particles of which matter is composed are astonishingly far apart.

This is an apt figure of comparison. For the scientific physician, overcrowded as he may seem to be with knowledge so much more abundant than he can ever acquire, the unknown is far greater than the known. The problems in medicine to be solved far outnumber those solved even in tentative fashion. Every problem solved opens up new fields of enquiry and investigation and research. There is an abundance of facts for which no conciliation has been found and their significance has not been determined. There are inconsistencies seemingly hopeless, with present knowledge. There are contradictions intolerably irritating in their insistence on the need for deeper insight and greater understanding.

All these things are true of scientific medicine. It has made but a beginning, yet it has chosen the better part. One speaks of the cults and scientific medicine. A more justly antithetic statement is dogmatic and scientific medicine, for this expresses the essential weakness of the cults.

Scientific medicine varies in content from year to year, searching for new knowledge, leaving acquisitions that have been outgrown; it is patient, humble, seeking knowledge from any and every source, but trying everything that comes to it in accordance with strict rules of evidence, asking always, What is the evidence, what is the evidence, what is the truth?

THE RELATIVE VALUE OF MEDICAL PUBLICATIONS

K. K. SHERWOOD, M.D. in an article in *Northwest Medicine* for July, 1932, presents an analysis of the relative value of fifty leading medical magazines for the last five years as shown by references to their contents.

The scope of his study is set forth as follows: "The procedure on which this study was based consisted of the perusal of one year's *Journal of the American Medical Association* (July 1, 1930-July 1, 1931), and a listing of all the references found in the footnotes in fifty-two issues, ending July 1, 1931. Only one reference to a given paper or book was counted for each article. That is, if in one of the articles the author referred to the same paper several times, it was counted only once; this was the only exception in the numerical counting."

He gives the highest rank to the *Journal of the American Medical Association*, next in order eight journals devoted to special fields and the *London Lancet*. Following this series in this list of fifty Journals he places the *New England Journal of Medicine*, the only general medical publications with a higher standing being the *Journal of the American Medical Association* and the *London Lancet*.

In a study of the relation between circulation and frequency of reference, the *New England Journal of Medicine* stands seventh and is only exceeded by six publications which may be regarded with reason as restricted to specialties.

The *New England Journal of Medicine* represents very largely the work done by New England physicians and scientists in the fields allied to medicine.

It is the aim of the Staff of this *Journal* to present to the medical public, information set forth by practitioners, hospitals and research organizations in accordance with the policies maintained for more than one hundred years. The broad representation of the Editorial Staff carries assurance of careful selection of material for publication. The maintenance of the *New England Journal of Medicine* is one of the contributions of the Massachusetts Medical Society, in association with New Hampshire and Vermont, to medicine.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

ROGERS, EDWARD J. B.S., M.D. Medical College, State of South Carolina 1908, Columbia University College of Physicians and Surgeons, 1912. Member of the Vermont State Board of Health 1923 to 1931. Chairman of Board from 1925 to 1930. Superintendent and Medical Director of Vermont Sanatorium, Pittsford, Vt. since 1913. Medical Director of Washington County Hospital at Barre, Vt. His subject is "Silicosis or Pneumonoconiosis in Vermont Granite Cutters and Slate Workers." Page 203. Address: Pittsford, Vermont.

PETERS, ANDREW. B.S., M.D. Columbia University College of Physicians and Surgeons 1914. Formerly Associate Physician, Loomis Sanatorium, Loomis, N. Y. Now Assistant Superintendent, Middlesex County Sanatorium, Waltham, Mass. His subject is "Pneumothorax Treatment in Pulmonary Tuberculosis." Page 208. Address: 775 Trapelo Road, Waltham, Mass.

WHITTEMORE, WYMAN. S.B., M.D. Harvard University Medical School 1905. F.A.C.S. Associate in Surgery, Harvard. Visiting Surgeon, Massachusetts General Hospital. His subject is "Thoracoplasty in Pulmonary Tuberculosis." Page 211. Address: 199 Beacon Street, Boston.

WILKINS, GEORGE C. M.D. Harvard University Medical School 1899. F.A.C.S. Surgeon, Elliot Hospital, Manchester, N. H. Member, New Hampshire State Board of Health and New Hampshire Cancer Commission. President of the New Hampshire Medical Society 1931-1932. His subject is "President's Address." Page 224. Address: 814 Elm Street, Manchester, N. H.

MISCELLANY

"HEADACHE REMEDIES" DANGEROUS IF UNWISELY USED

Persons who carelessly use headache powders, tablets, medicines, or certain other temporary reliefs for pain, may take chances with illness, even death, according to Dr. F. J. Cullen, chief of drug control, Federal Food and Drug Administration. The Administration says Cullen has on file records showing that serious consequences have followed careless or indiscriminate use of medicinal pills or medicines containing such dangerous drugs as acetanilid, phenacetine, opium, cocaine, and chloral hydrate.

In 25 years of enforcement of the Federal food and drugs act, Government officials have removed from the market a number of drug preparations labeled with false or fraudulent claims for the relief of pain. But the food and drugs law gives enforcing agents no power to prevent the sale of medicines and pharmaceuticals containing harmful or poisonous drugs or compounds, although it specifies that the presence of certain of these must be declared upon the label. Alcohol, morphine, opium, cocaine, heroine, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, and acetanilid, or any derivative or preparation of such substances, if present in a drug preparation, must be declared clearly.

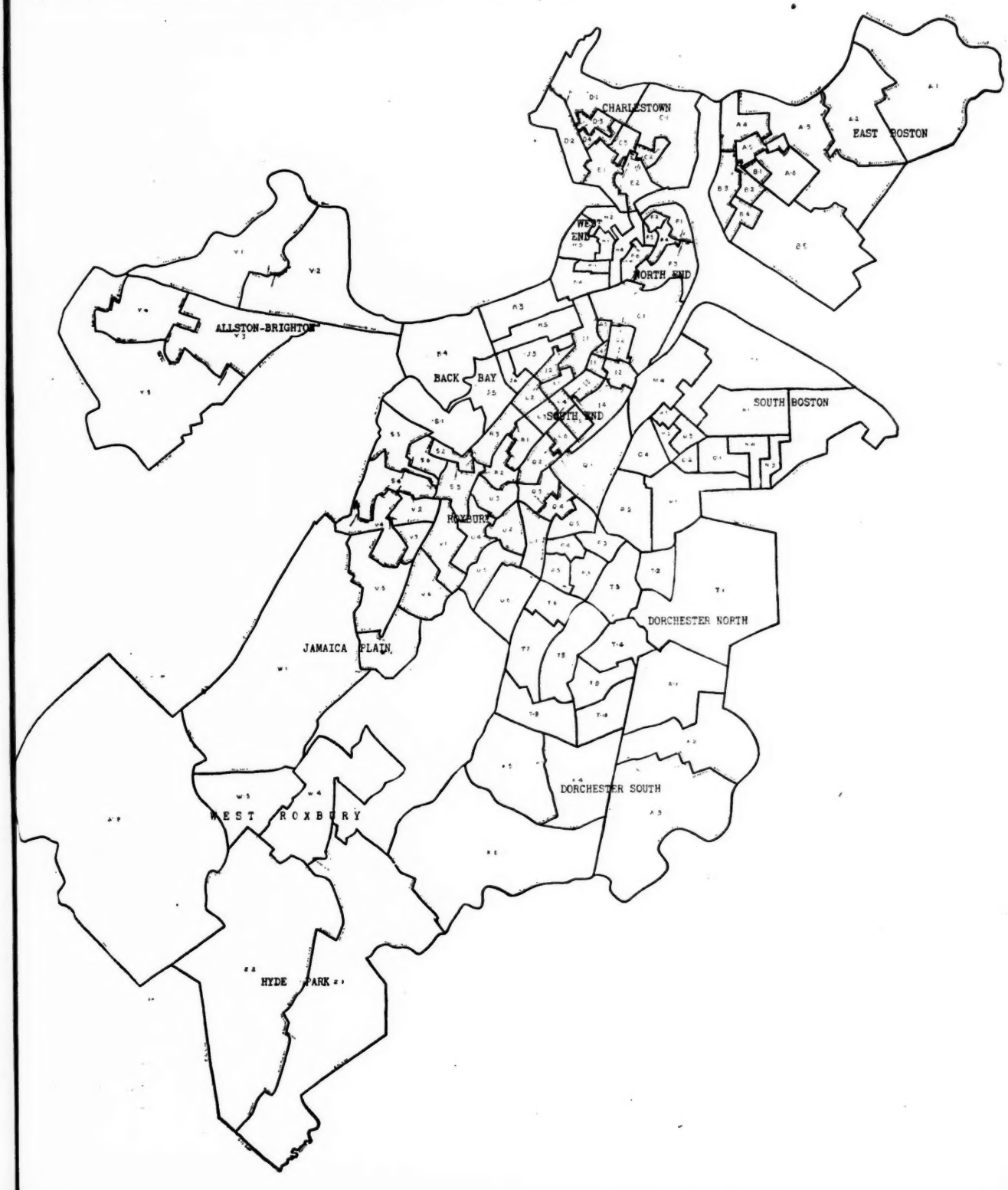
"Acetanilid, acetphenitidin, amidopyrine, aspirin, and other coal-tar derivatives, are commonly found in headache powders and pills," says Cullen. "There is a possibility that any one of these coal-tar derivatives will have a depressing effect on the heart of certain individuals who are particularly susceptible. Some time ago the Government investigated the case of a woman, then living in Amsterdam, N. Y., who was killed suddenly by an overdose of a headache medicine containing acetanilid which she had taken to relieve headache. The average dosage of acetanilid prescribed by physicians is three grains. The woman, however, had taken a powder containing six grains of acetanilid, followed soon after by another containing an equal amount. Death was practically instantaneous. Overdosage of acetanilid has not infrequently proved fatal, this drug acting with most individuals as a heart depressant. The case was referred to food-and-drugs-law officials by the Commissioner of Health of New York, but the Federal Government was powerless to take action inasmuch as the boxes containing the powders were truthfully labeled with a statement showing the quantity of acetanilid present. Many drugs are harmful and poisonous but, nevertheless, in some disease conditions, are useful medicines. Acetanilid is one of the drugs specifically required to be declared on the label. The discriminating purchaser, who reads the label, receives a warning and has an opportunity to protect himself."

A STUDY OF INFANT MORTALITY IN BOSTON FOR 1930

The Boston Health League presents herewith a simple study of infant mortality for 1930 by health areas and census tracts. These are the first infant mortality figures to be collected by census tracts. It is, therefore, impossible to arrive at definite conclusions from this single series. There are a few points, however, which should be mentioned.

Of the total number of infant deaths 26.9% occurred the first day, 28.4% the first month and 44.7% after the first month.

East Boston—The population in Tract A-1 is 52.4% first and second generation Italian and A-6 is 57.4% Italian, while the mortality rate for A-1 is nearly one-half the rate for A-6. In B-2, B-4, B-5 the population is from 70-79% Italian, while the rates vary from 47.1 to 139.7.



Charlestown—The areas in this district with higher infant mortality rates are rather more congested than many other parts of the city. The population is composed of from 30-49% of first and second generation Irish.

North End—F-2 and F-4 have more than 90% Italian population, while the rates here are 68.3 and 62.9, which are lower than the rates in East Boston. Tracts F-2, F-4, F-5 and H-1 (West End) contain the greatest number of persons per acre in the City, while the infant mortality rate in all these areas (except F-2, which is 68.3) is below the city infant mortality rate.

Negro—Tracts J-2, L-2 and L-3, Q-3 and U-2 contain a large proportion of the Negro population, but R-1, which has a quarter of the entire Negro population, has one of the lowest infant mortality rates in the city. The number of stillbirths in L-2, I-2, R-1, R-2, U-2 and U-5 (all tracts with a large proportion of Negroes) is high.

South Boston and Dorchester—No one racial group predominates and there is not the congestion in living quarters that there is in the North End. Further analysis will have to be made before an explanation can be offered for the high mortality rates in M-1, M-2, M-3, O-3, O-1. Since these tracts are adjacent, the quality of prenatal and infant care might be questioned as well as in Dorchester in Tracts P-3, P-6 and T-3.

Stillbirths—The number of stillbirths in Tracts W-4, X-3, X-5, X-6, Y-4 and Y-5 is unusually large, while the infant mortality rates are below the city average with the exception of X-3.

No final conclusions can be made until this series has been carried through for at least five years, but it is hoped that by breaking down the figures into these small areas valuable data may be secured.

A rate map by tracts for this study has been prepared. It is on file and available for consultation at the office of the Boston Health League. Copies may be ordered for one dollar each.

RESIDENT BIRTHS, STILLBIRTHS, INFANT DEATHS AND INFANT MORTALITY RATES FOR 1930 DISTRIBUTED BY HEALTH AREAS AND CENSUS TRACTS

Composed of Census Tracts	Births	Deaths Under One Year	Infant Mortality Rate	Stillbirths	Further Analysis of Infant Deaths: First Day	First Month	After First Month
City Totals	**13,894**	**926**	**66.6**	**446**	**249**	**263**	**414**
			East Boston				
A-1	109	6	55.	3	3	1	2
A-2	79	1	12.7	1	—	—	1
A-3	179	9	50.2	6	1	3	5
A-4	119	7	58.8	2	2	1	4
A-5	162	18	111.1	4	2	6	10
A-6	139	15	107.9	6	1	3	11
B-1	98	5	51.	6	1	1	3
B-2	93	13	139.7	2	2	1	10
B-3	59	4	67.7	1	—	1	3
B-4	85	4	47.1	3	1	1	2
B-5	188	21	111.7	6	6	5	10
Totals	1,310	103	78.6	40	19	23	61
			Charlestown				
C-1	47	5	106.3	—	1	1	3
C-2	77	9	116.8	2	1	4	4
C-3	94	13	138.2	3	2	4	7
D-1	34	2	58.8	1	—	—	2
D-2	27	2	74.1	1	—	—	2
D-3	58	3	51.7	1	—	3	—
D-4	60	4	66.6	2	1	—	3
E-1	93	4	43.	3	3	—	1
E-2	53	3	56.6	4	1	—	2
Totals	543	45	82.8	17	9	12	24
			North End				
F-1	105	14	133.3	3	1	6	7
F-2	117	9	76.9	6	2	2	5
F-3	26	2	76.9	3	—	—	2
F-4	143	10	69.9	8	1	3	6
F-5	81	5	61.7	5	—	2	3
F-6	23	—	—	—	—	—	—
Totals	495	40	80.8	25	4	13	23
			West End				
H-1	138	7	50.7	7	2	1	4
H-2	48	3	62.5	1	1	—	2
H-3	35	2	57.1	3	2	—	—
H-4	88	4	45.4	2	—	2	2
K-1	66	1	15.1	2	1	—	—
K-2	33	2	60.6	—	—	1	1
Totals	408	19	46.5	15	6	4	9
			Back Bay				
K-3	15	—	—	—	—	—	—
K-4	110	4	36.3	1	1	1	2
K-5	9	—	—	—	—	—	—
J-3	12	2	166.6	1	—	—	2
J-4	33	3	90.9	—	2	—	1
J-5	72	4	55.5	4	1	2	1
S-1	78	9	115.3	2	4	1	4
Totals	329	22	66.8	8	8	4	10
			South End				
G-1	33	1	30.3	3	—	—	1
G-2	53	4	75.4	1	—	2	2
G-3	6	—	—	—	—	—	—
G-4	10	—	—	—	—	—	—
I-1	64	8	125.	2	—	5	3
I-2	110	12	109.	2	1	3	8

I-3	76	7	92.1	3	2	2	3
I-4	70	3	42.8	3	3	—	—
J-1	53	2	37.7	1	—	2	—
J-2	28	3	107.1	—	—	2	1
L-1	45	1	22.2	1	1	—	—
L-2	78	10	128.2	5	1	5	4
L-3	61	10	163.9	1	2	4	4
L-4	38	3	78.9	—	—	—	3
L-5	36	4	111.1	—	1	—	3
L-6	47	4	85.1	—	1	1	2
Q-1	49	4	81.6	2	1	2	1
Totals	857	76	88.6	24	13	28	35

South Boston

M-1	43	5	116.2	2	—	1	4
M-2	73	13	178.	1	2	6	5
M-3	41	5	121.9	—	1	—	4
M-4	47	4	85.1	2	—	2	2
N-1	171	13	76.	2	3	5	5
N-2	102	6	58.8	2	1	2	3
N-3	99	4	40.4	2	1	1	2
N-4	120	7	58.3	3	1	3	3
O-1	170	22	129.4	3	2	6	14
O-2	71	7	98.5	2	—	3	4
O-3	83	9	108.4	4	3	1	5
O-4	32	1	31.2	3	—	—	1
P-1	124	9	72.5	4	2	2	5
Totals	1,176	105	89.2	30	16	32	57

Roxbury

Q-2	149	14	93.9	5	1	2	11
Q-3	88	7	79.5	3	1	4	2
Q-4	97	4	41.2	1	1	—	3
R-1	147	4	27.2	6	2	—	2
R-2	80	6	75.	5	2	2	2
R-3	81	2	24.6	3	—	1	1
S-2	51	4	78.4	1	2	1	1
S-3	123	16	130.	2	3	7	6
S-4	79	6	75.9	1	1	3	2
S-5	90	5	55.5	2	1	4	—
S-6	84	3	35.7	—	2	1	—
U-1	119	9	75.6	4	2	4	3
U-2	101	8	79.2	4	1	2	5
U-3	116	4	34.4	4	—	1	3
U-4	143	10	69.9	1	7	1	2
U-5	185	11	59.4	6	3	3	5
U-6	204	8	39.2	8	4	1	3
V-1	94	8	85.1	3	3	1	4
V-2	129	11	85.2	7	3	5	3
Totals	2,160	140	64.8	66	39	43	58

Dorchester North

P-2	110	10	90.9	4	7	1	2
P-3	65	7	107.6	2	3	3	1
P-4	86	4	46.5	2	1	—	3
P-5	100	9	90.	2	1	4	4
P-6	69	9	130.4	3	3	2	4
T-1	91	9	98.9	3	2	2	5
T-2	168	8	47.6	4	1	5	2
T-3	164	21	128.	7	5	4	12
T-4	174	13	74.7	7	3	2	8
T-5	173	8	45.9	7	2	2	4
T-6	104	8	76.9	1	4	2	2
T-7	178	7	39.3	4	—	1	6
T-8	177	10	56.4	9	5	4	1
T-9	111	8	72.	4	4	2	2
T-10	76	3	39.4	5	1	—	2
X-1	199	11	55.2	3	3	3	5
Q-5	161	8	49.6	2	1	2	5
Totals	2,206	153	69.3	69	46	39	68

Dorchester South

X-2	219	12	54.7	5	6	1	5
X-3	185	18	97.2	13	8	1	9
X-4	229	9	39.3	3	2	3	4
X-5	322	19	59.	11	9	7	3
X-6	319	11	34.4	9	6	2	3
Totals	1,274	69	54.1	41	31	14	24

Jamaica Plain

V-3	78	4	51.2	3	—	2	2
V-4	102	4	39.2	5	2	—	2
V-5	148	8	54.	3	3	2	3
V-6	161	8	49.6	7	2	3	3
W-1	215	10	46.5	6	3	5	2
W-2	133	5	37.5	9	3	1	1
Totals	837	39	46.5	33	13	13	13

Hyde Park

Z-1	289	11	38.	7	6	1	4
Z-2	165	6	36.4	8	5	1	—
Totals	454	17	37.4	15	11	2	4

West Roxbury

W-3	185	7	37.8	11	3	2	2
W-4	187	11	58.8	7	6	2	3
W-5	147	10	68.	1	6	2	2
W-6	279	11	39.4	8	3	5	3
Totals	798	39	48.8	27	18	11	10

Brighton

Y-1	128	17	132.8	3	4	7	6
Y-2	121	6	49.5	3	1	3	2
Y-3	277	9	32.4	9	6	2	1
Y-4	169	9	53.2	11	—	5	4
Y-5	350	18	51.4	10	5	8	5
Totals	1,045	59	56.4	36	16	25	18

B-6 2 (Harbor Islands not included in above figures.)

NOTE:—All births have been allocated to the residence of the mother, and all infant deaths to the residence of the decedent.

In the Fifty-ninth Annual Report of the Health Department of the City of Boston for the year 1930

it is stated that the closing date for births was April 1, 1931, and that the total resident births on that date were 13,812. Checking the records between January 1, 1932, and April 30, 1932, the total resident births were 13,894. Our resident infant mortality rate, therefore, is 66.64, which is slightly below the resident infant mortality rate published by the City Health Department of 67.04.

RÉSUMÉ OF COMMUNICABLE DISEASES FOR JUNE, 1932

Scarlet fever has continued the high prevalence recorded early in the fall.

Measles is slightly higher than normal for this month, as for last, the increase in the number of cases having begun late in the season.

Chicken pox and mumps are also somewhat more prevalent than usual for this season of the year.

Anterior poliomyelitis was less prevalent than usual for the month of June, giving hope that there will not be a large number of cases this year.

Diphtheria continues to strike new low levels, there having been only two months during the last twelve in which the number of cases reported was not the lowest for that month in the history of the State.

Tuberculosis, pulmonary and other forms, continues a downward trend.

The reporting of German measles shows relatively few cases.

Lobar pneumonia is again just below normal levels after having been high earlier in the year.

The number of cases of typhoid fever reported for June is below the average for the last five years but slightly higher than for the two previous years.

Epidemic cerebrospinal meningitis, influenza and whooping cough were reported about the number of times expected for this month.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES

	Cases in Entire Pop.				Case Rates per 100,000 Pop.		
	June 1932	June 1931	Proso. Index*	Epi. Index†	June 1932	June 1931	Expected Rates‡
All Causes	10,568	8811	—	—	245.9	206.1	—
Ant. Polio.	3	15	7	.4	.1	.4	.2
Diphtheria	152	189	312	.5	3.5	4.4	7.3
Ep. C. S. Men.	11	7	6	1.8	.3	.2	.1
Measles	3879	2360	3393	1.1	90.3	55.2	79.0
Pneu. Lobar	209	199	226	.9	4.9	4.7	5.3
Sc. Fever	1402	897	735	1.9	32.6	21.0	17.1
Tbc. Pulmonary	338	425	405	.8	7.9	9.9	9.4
Ty. Fever	20	18	17	1.2	.5	.4	.4
Wh. Cough	680	505	815	.8	15.8	11.8	19.0
Chicken Pox	980	1076	—	—	22.8	25.2	—
Ger. Measles	61	352	—	—	1.4	8.2	—
Gonorrhea	548	662	—	—	12.8	15.5	—
Influenza	8	3	—	—	.2	.1	—
Mumps	989	592	—	—	23.0	13.8	—
Syphilis	379	393	—	—	8.8	9.2	—
Tbc. Other Forms	38	64	—	—	.9	1.5	—

*This index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

†This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. Thus 2.0 would indicate twice the expected number, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the *Boston Medical and Surgical Journal.*

‡Calculated from the Prosodemic Index.

RARE DISEASES

Actinomycosis was reported from Waltham, 1.

Anterior poliomyelitis was reported from Amherst, 1; Greenfield, 1; Topsfield, 1; Total, 3.

Dysentery was reported from Dedham, 1.

Epidemic cerebrospinal meningitis was reported from Beverly, 1; Boston, 4; Brookline, 1; Chelsea, 1; Northampton, 1; Northbridge, 1; Somerville, 2; Total, 11.

Malaria was reported from Cambridge, 1.

Pellagra was reported from Newburyport, 1; Winchester, 1; Total, 2.

Septic sore throat was reported from Belmont, 1; Boston, 8; Greenfield, 1; Leominster, 1; Lowell, 3; Lynn, 1; Malden, 1; Newton, 1; Walpole, 1; Worcester, 1; Total, 19.

Tetanus was reported from Bedford, 1.

Trachoma was reported from Boston, 2; Lawrence, 1; Marblehead, 1; Out of State, 1; Total, 5.

Trichinosis was reported from Brockton, 1; Everett, 1; Total, 2.

Typhus was reported from Boston, 1.

Undulant fever was reported from Canton, 1; Stoughton, 1; Northborough, 1; Total, 3.

CORRESPONDENCE

ALCOHOL AS A DISINFECTING AGENT

July 30, 1932.

Editor, *New England Journal of Medicine,*

I am glad to see that you are insisting upon the uselessness of alcohol as a disinfecting agent. I have been asserting the same for some twenty-five years. Perhaps it is true, as Dr. Viets says, that many depend upon alcohol in minor surgery. It is also true that, in the vast majority of cases of minor surgery, there would be no trouble if there was no attempt to sterilize. The body can do a great deal, as those of us who worked in preaseptic days know. From 1885 to 1890 I sometimes assisted a man who for some thirty years had been the leading surgeon in a Massachusetts city. This was in the day of phenol spray, which he scorned. He used nothing. I recall an amputation of the breast in which in the midst of the operation he sharpened his knife on the top of his shoe. The wound healed perfectly without a drop of pus.

The fact that most cases of minor surgery will do well without asepsis does not excuse us from neglecting it. Don't let us think that we are sterilizing our instruments with alcohol, however, for we are not.

A. J. Abbe, M.D.

75 Wood Street, Pottersville, Mass.

AMERICAN MEDICAL ASSOCIATION

Articles Accepted by the Council on Pharmacy and Chemistry

535 North Dearborn Street, Chicago, Ill.,
July 30, 1932.

Managing Editor, the *New England Journal of Medicine,*

In addition to the articles enumerated in our letter of June 25 the following have been accepted:

Livermeal Corporation
Liver Meal

H. A. Metz Laboratories, Inc.
Triphal
Ampules Triphal 0.025 Gm.
Ampules Triphal 0.1 Gm.

National Drug Company
Scarlet Fever Streptococcus Toxin for the Dick Test
Scarlet Fever Streptococcus Toxin for Immunization
Scarlet Fever Streptococcus Antitoxin

United States Standard Products Company
Rabies Vaccine—U. S. S. P. (Semple Method), seven vial packages
Rabies Vaccine—U. S. S. P. (Semple Method), twenty-one syringe packages.

Yours truly,
W. A. Puckner, *Secretary,*
Council on Pharmacy and Chemistry.

Committee on Foods

Cocomalt has been included in the list of products which have been accepted by the Committee on Foods of the American Medical Association.

Raymond Hertwig, *Secretary.*

RECENT DEATHS

CELCE—Dr. Jean Henriette Celce, of Holyoke, Mass., died July 31, 1932, at the Deaconess Hospital, Boston. She was the wife of Dr. Frank F. Celce of 399 Appleton Street and the mother of Dr. Frederick W. Celce, both of Holyoke. She was born in Johnstown, N. Y., in 1870 and was graduated from the Woman's Medical College of Philadelphia in 1892. She joined the Massachusetts Medical Society in 1905.

CARROLL—Dr. John Philip Carroll, of 14 Winn Street, Woburn, Mass., died at the Choate Memorial Hospital, July 31, 1932. The cause of his death was appendicitis with complications. Dr. Carroll was born in Peabody, Mass., in 1875 and graduated from the Dartmouth Medical School in 1898, subsequently serving as house officer in the Boston City Hospital. He joined the Massachusetts Medical Society in 1899. He served for several years on the Woburn Board of Health, part of the time as chairman, and was a member of the American Medical Association and the Woburn Medical Society. He was a member of the Knights of Columbus, Massachusetts Catholic Order of Foresters, Hibernians, Elks and the Campbell Post, A. L. He served during the World War as first lieutenant, medical corps, at Camp Oglethorpe, Ga. He is survived by a sister, Miss Katherine Carroll of Woburn.

WHITNEY—Dr. Charles Melville Whitney, of Newton Centre, Mass., with an office at 386 Commonwealth Avenue, Boston, died in Lincoln, Maine, July 30, 1932. He was born in Winchendon, Mass., December 4, 1861. His premedical education was acquired at Dartmouth and Harvard Colleges and his medical degree from the Harvard Medical School in 1887. His interest in medicine was centered in Urology, which led to his appointment as Professor of Urology at the Tufts College Medical School in 1904. He joined the Massachusetts Medical Society in 1886 and was transferred from the Middlesex South to the Suffolk District in 1918. Aside from medicine he was interested in the wild life of Maine and acquired voluminous photographic records of the life of forest animals. He is survived by his wife, Mrs. Mary H. Whitney of 31 Chase Street, Newton Centre, and a sister, Miss Clara S. Whitney of Winchendon, Mass.

MILLS—Dr. George Westgate Mills, a practitioner in Medford for more than fifty years, died July 27, 1932, at the home of his daughter, Mrs. E. A. Sargent of Lexington.

He graduated from the Medical School of Harvard University in 1879.

He is survived only by his daughter referred to above.

REPORT OF MEETING

SOUTHEASTERN ASSOCIATION OF BOARDS OF HEALTH

The annual meeting of the Southeastern Massachusetts Association of Boards of Health at Fort Phoenix, Fairhaven, Mass., on Wednesday, July 20, was principally a social occasion. There were no papers, and the business included only the election of officers and the adoption of a resolution on the death of L. S. S. Russell, former health officer of Dartmouth, and a member of the executive committee of the association. The following officers were elected for the coming year: President, John B. Berry of Brewster; Vice-Presidents, Charles R. Bassett of Yarmouth, and Dr. T. B. Swift of Falmouth; Secretary-Treasurer, G. F. Crocker, Jr., of Marstons Mills, and Executive Committee: Dr. Richard P. MacKnight and W. D. Kirschbaum of New Bedford and W. Fred Delano of Fairhaven.

SOCIETY MEETINGS
CONGRESSES AND CONFERENCES

July 10 - August 12—The Second Intensive European Summer Course in Surgery, Gynecology and Obstetrics. See page 714, issue of March 31.

September 19-22 — International Congress of Biliary Lithiasis. See notice on page 427, issue of February 25.

October 17-21—Clinical Congress of the American College of Surgeons. See page 1330, issue of June 23.

October 17-28—The 1932 Graduate Fortnight of the New York Academy of Medicine. See page 1375, issue of June 30.

October 22-24—Health Education Institute. See notice on page 47, issue of July 7.

October 24-27 — American Public Health Association. See notice on page 1321, issue of December 31, 1931.

October 24-28—Inter-state Postgraduate Medical Association of North America. See page 39, issue of January 7.

BOOK REVIEWS

Practical Treatment of Skin Diseases. By EDUARD AHLSWEDE, M.D. Paul B. Hoeber, Inc., New York, 1932. 798 pages, 77 illustrations. Price $12.00.

This excellent book can be widely used, by dermatologists as well as by the general practicing physician. It covers the whole field of treatment in a very excellent manner, and in a very comprehensive way. Its changes in type for the sake of emphasis make it extremely easy for reference and for the selection of salient features.

The first 166 pages are devoted to the general management of skin disease, including a discussion of the various methods—drugs, physiotherapy, etc. In the matter of technic, particularly, the writer has made his descriptions very clear and it should be easy for the inexperienced individual to follow them without any trouble. Sixty pages of this are devoted to the discussion of physiotherapy, which has assumed an extremely important part in the management of many cases with skin manifestations.

The body of the book is devoted to the treatment of individual diseases of the skin, arranged in alphabetical order. The more common diseases, such as acne, eczema, etc., are covered in a good deal of detail, especially concerning the treatment of the various types of disease which may be present in a given individual. This should be an extremely valuable feature.

Twenty-seven pages near the end of the book give a concise summary of this treatment, also arranged alphabetically. In addition, there are numerous formulae scattered through the book, and also a separate section of Unna's formulae in the back. The index is complete and furnishes easy reference for details.

The book covers the European field of treatment perhaps even more than it does the American field, and some drugs are mentioned which have a rather limited use in this country. This, however, does not detract from its usefulness.

So far as criticism is concerned, the book could be shortened in some respects, and dietotherapy could be perhaps somewhat enlarged upon. On the whole it is an excellent book with reference to the treatment of individual skin disease.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1931. Cloth. Pp. 100. Chicago: American Medical Association. Price $1.00.

This small volume is an annual reprint of the reports which have been issued by the Council on Pharmacy and Chemistry of the American Medical Association that have been adopted and authorized for publication during 1931. It includes reports of the Council previously published in the *Journal of the A. M. A.* along with editorial comments. In addition the volume contains reports of the Council which, because of their lesser importance, were not published in the *Journal* but which are valuable as a matter of record.

Studies from the Rockefeller Institute for Medical Research. Reprints. Volume 82. New York, 1932. Pp. 624.

Among this long series of reprints from the Rockefeller Institute and Hospital are several of unusual interest. Of note because of the human interest is the report of a method of washing of suspended particles during the process of centrifugalization by Colonel Lindbergh.

An excellent summary of our present knowledge of pneumonia is found in Rufus Cole's lecture "The Nature of Pneumonia" delivered as the twelfth annual Pasteur lecture for the Institute of Medicine of Chicago. This is an excellent summary of the scientific and clinical work done on pneumonia up to and through the fall of 1931.

The articles are much too varied in nature to warrant any attempt at comprehensive review.